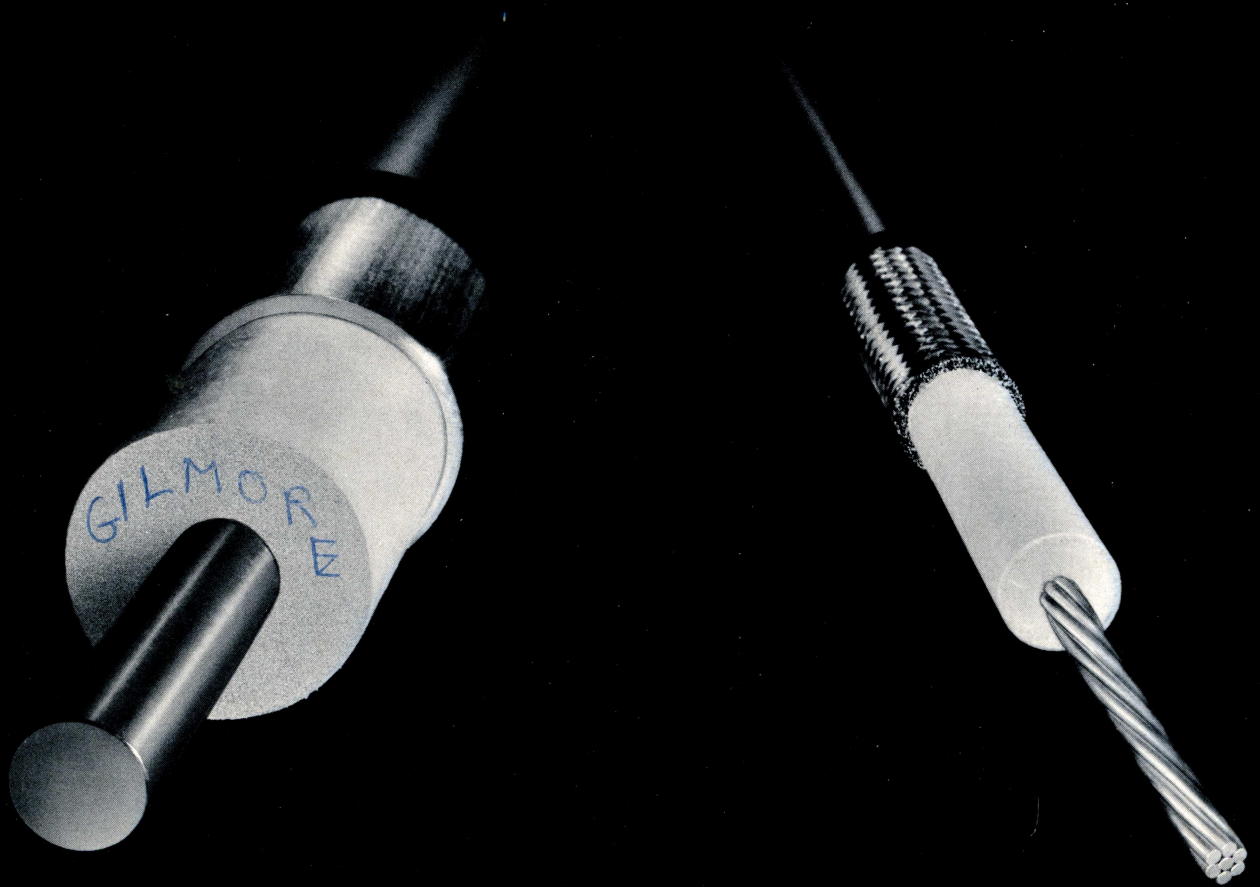
RF TRANSMISSION LINE
catalog & handbook



TIMES
Wire & Cable Company

insl co

Cat. No. TL-6

Introduction

TIMES Wire and Cable is an engineering-oriented manufacturer of wire, cable and components used in the interconnection of electronic equipment. Its lines cover the complete spectrum of coaxial cable applications. Its uniquely high engineering to plant worker ratio enables the company to relate extremely well to all industries—especially those in which technological change is rapid and demanding.

Since its inception, Times has devoted its energies to the production of coaxial cables, a great number of which are described in this catalog. Most of these cables are stocked in quantity for immediate shipment, from our manufacturing facilities, or from selected distributors throughout the United States and Canada.

Complete Reference Data

The correct selection of cable requires proper analysis of the electrical and physical parameters of the system. To assist you in this analysis, our catalog & handbook includes complete reference data, enabling you to determine the characteristics of the cables presently available and also to evaluate how they may vary under physical operating conditions. First, review the Application Notes (page 1 to 8), to determine all of the cable characteristics which must be considered. Then from the list of RG and Times standard cables, select those which will best meet your requirements. Our national field engineering staff will gladly assist you.

Complete Interconnect System Capability

Because we manufacture cables and connectors used in virtually every part of an RF transmission system, we are capable of taking full responsibility for the design and manufacture of all interconnections. Times maintains one of the largest RF cable assembly facilities in the country, producing broadband assemblies to swept performance specifications. Some of the projects the company has participated in are the F-111 program, the Apollo Space program and the Nike-X and Polaris missile programs.

Times products include flexible cables for shock mounted equipment; lightweight and low-loss cable for air-frame equipment up to 18 GHz and beyond; non-hosing cable to 1500 psi for hull penetration; and flexible cable that operates to −250°. Altogether there are more than 10,000 types of cable designs available.

Times welcomes the opportunity to provide solutions to your most difficult RF transmission system problems, as well as your standard requirements.

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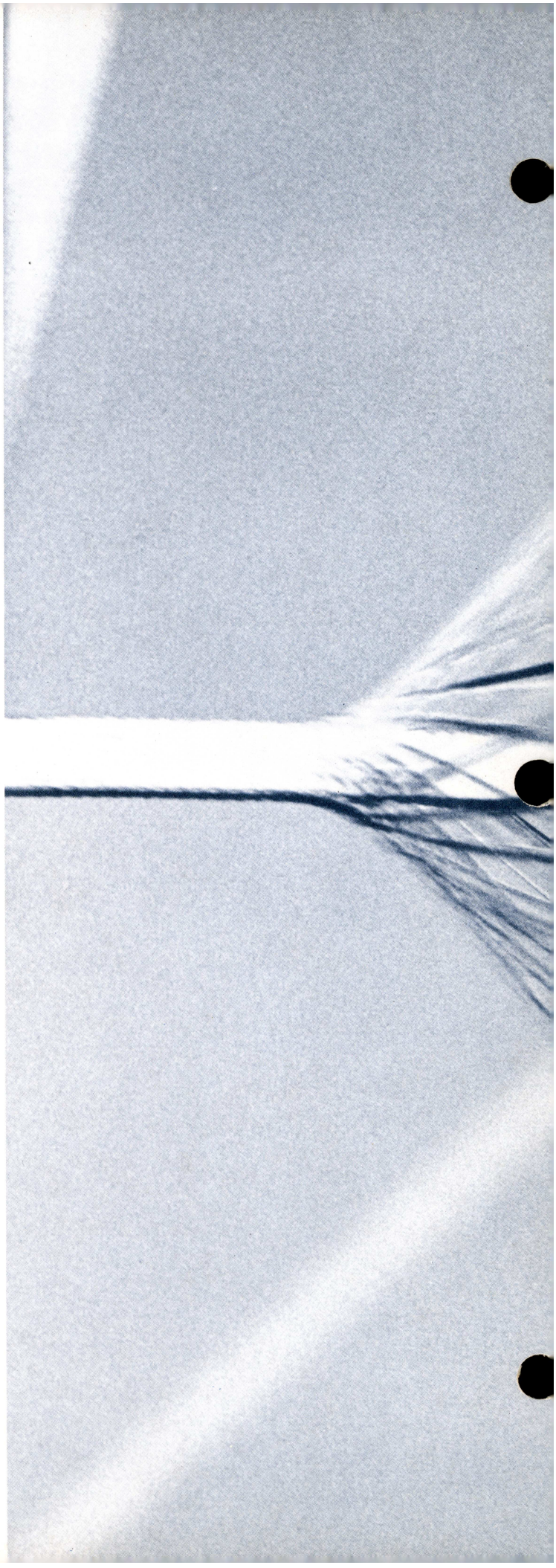


Application Notes

A guide to the selection of flexible and semiflexible R.F. coaxial cable

1. In choosing the appropriate cable construction for a particular application, the cable characteristics listed below are to be considered:

A—Characteristic Impedance
B—Impedance Uniformity (VSWR)
C—Capacitance
D—Capacitance & Impedance Stability
E—C.W. Power Rating
F—Maximum Operating Voltage
G—Attenuation
H—Attenuation Uniformity
I—Attenuation Stability
J—Velocity of Propagation
K—Electrical Length Stability
L—Pulse Response
M—Shielding
N—Cut-Off Frequency
O—Self-Generated Cable Noise
P—Operating Temperature Range
Q—Flexibility
R—Environmental Resistance
S—Cable Strength
T—Qualification & UL Approval

2. It should be noted that the stipulation of materials and dimensions does not guarantee that each lot of cable will have identical mechanical or electrical characteristics. Different types of manufacturing equipment or different manufacturing conditions can give substantially different performance characteristics. For example, VSWR and attenuation uniformity may have to be specified over a band of frequencies. See Table I for formulae describing cable characteristics.

TABLE I

FORMULAE COMMON TO ALL COAXIAL CABLE

Capacitance (C) = $\frac{7.36E}{\text{Log}(D/d)}$ picofarads/ft

Inductance (L) = .140 Log(D/d) microhenries/ft

Impedance (Zo) = $\sqrt{\frac{L}{C}} = \frac{138}{\sqrt{E}}$ Log(D/d) ohms

Velocity of Propagation as % of Speed of Light = $\frac{100}{\sqrt{E}}$

Time Delay = $1.016\sqrt{E}$ nanoseconds/ft

Cutoff Frequency = $\frac{7.50}{\sqrt{E}(D+d)} = F_{co}$ (GHz)

Reflection Coefficient = $\Gamma = \frac{Zr - Zo}{Zr + Zo} = \frac{VSWR - 1}{VSWR + 1}$

VSWR = $\frac{1 + \Gamma}{1 - \Gamma}$

Peak Voltage = $\frac{1.15Sxd(\text{Log } D/d)}{K}$

$\alpha = \frac{.435}{Zo(D)}\left[\frac{D}{d}K_1 + K_2\right]\sqrt{F} + 2.78\sqrt{E}(P.F.)(F)$

Where

α = attenuation in db/100 ft

d = the outside diameter of inner conductor in inches

D = the inside diameter of outer conductor in inches

S = the maximum voltage gradient of the cable insulation in volts per mil.

E = the dielectric constant of the insulation of the cable

Log = Logarithm to base 10

K = safety factor

F = frequency in MHz

K_1 = strand factor

P.F. = power factor

K_2 = braid factor

PROPERTIES OF WIRE AND CABLE INSULATING MATERIALS

Material	Dielectric Constant	Power Factor	Volume Resistivity (ohms-cm)	Normal Operating Temperature Limits (°C)
TFE	2.1	0.0003	10^{19}	−75 +250
Polyethylene	2.3	0.0003	10^{16}	−75 +80
Cellular Polyethylene	1.40-2.10	0.0003	10^{12}	−75 +80
Polyvinylchloride	3.00-8.00	0.0700-0.1600	$2x10^{12}$	−55 +105
Nylon	4.60-3.50	0.040-0.030	$4x10^{14}$	−60 +120
Kel-F	2.37	0.0270-0.0053	$1.2x10^{18}$	−40 +150
Silicone Rubber	2.08-3.50	0.007-0.016	10^{13}	−70 +250
Ethylene Propylene	2.24	0.00046	10^{17}	−40 +105
FEP	2.10	0.0003	10^{18}	−75 +200
Perforated TFE	1.50	0.0002	10^{19}	−75 +250
Cellular TFE	1.40	0.0002	10^{19}	−75 +250
Cellular FEP	1.50	0.0002*	18^{18}	−75 +200
Polyimide	3.00-3.50	0.002-0.003	10^{13}	−75 +300

*varies with frequency

A. Characteristic impedance

1. The average characteristic impedance of a coaxial cable is determined by the ratio of the inner diameter of the outer conductor to the outer diameter of the inner conductor and by the dielectric constant of the insulating material between the conductors. Select impedance to match system requirements.

2. The most common values for coaxial cables are 50, 75, and 95 ohm. Other impedances from 35 to 185 ohms are available in the coaxial configuration.

3. The most common values for balanced lines are 75, 95, and 125 ohms.

4. Note that actual input impedance at a particular frequency may be quite different from the characteristic, or surge impedance of the cable due to reflections in the line. The VSWR (Voltage Standing Wave Ratio) of a particular length of cable is an indicator of the difference between the actual input impedance of the cable and its average characteristic impedance.

B. Impedance (VSWR) uniformity

1. The VSWR of a cable assembly is the summation of reflections due to the connectors, the connector termination technique and the cable. The VSWR of the cable is the summation of random and periodic reflections within the cable, most commonly caused by variations within the processing equipment. The VSWR will vary with frequency. A common occurrence is the VSWR "spike" which is illustrated in Figure 1. If required, cables can be procured in specified lengths to a maximum VSWR requirement on a swept basis. If a very low VSWR is required, it may be necessary to procure complete assemblies verified on a swept basis.

C. Capacitance

1. Select to meet system requirements.

2. Capacitance values (shown below) for standard coax lines depend only on cable impedance and dielectric material.

TABLE II

NOMINAL CAPACITANCE PF/FT	CABLE TYPES
30.8	50 Ohm Solid Polyethylene
25.4	50 Ohm Foam Polyethylene
29.4	50 Ohm Solid PTFE
20.6	75 Ohm Solid Polyethylene
16.9	75 Ohm Foam Polyethylene
19.5	75 Ohm Solid PTFE
16.3	95 Ohm Solid Polyethylene
13.5	95 Ohm Air space Polyethylene RG62B
15.4	95 Ohm Solid PTFE
10.0	125 Ohm Air space Polyethylene RG63B
6.5	185 Ohm Air space Polyethylene RG114A

See page 36 for low capacitance coaxial cables

D. Capacitance & impedance stability

1. The capacitance & impedance of long lengths of cable will exhibit very little change over their operating temperature ranges (less than 2%). Semiflexible foam dielectric cables normally exhibit the least change. In short cable lengths at frequencies over 1000 MHz, the VSWR can vary significantly if dielectric movement at the connector interface occurs.

Fig. 1

INPUT IMPEDANCE (VSWR) VS. FREQUENCY
50 OHM 3/4" COAXIAL CABLE
SAMPLE LENGTH 15'

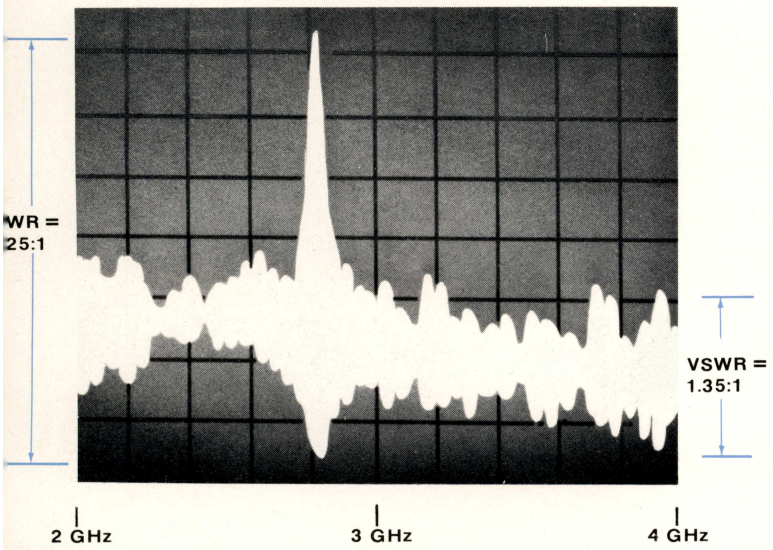
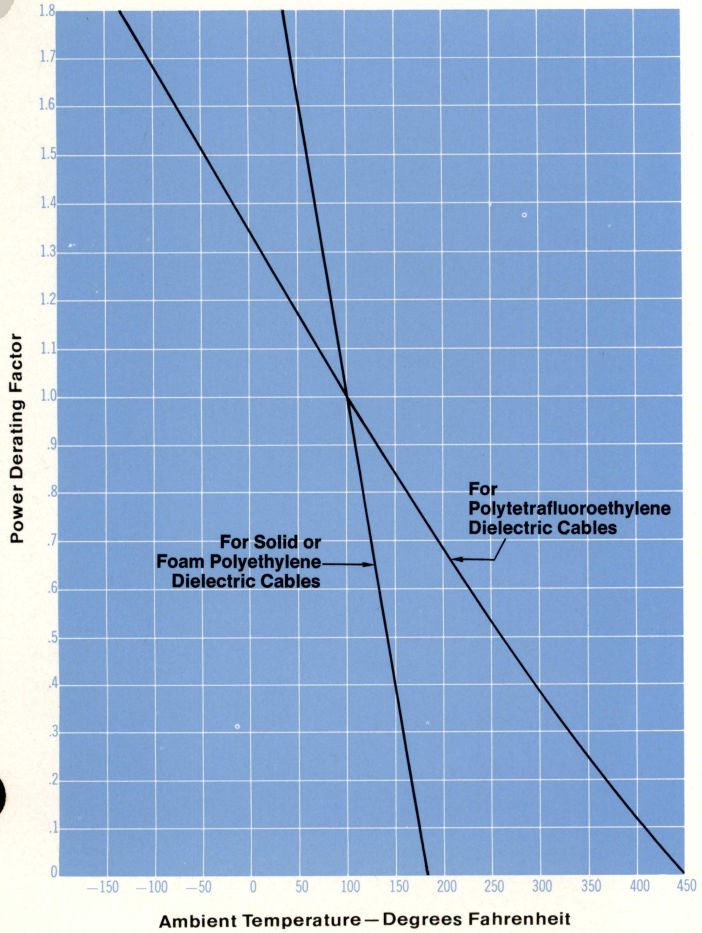


Fig. 2



E. Average C.W. power rating

1. Page 10, serves as a guide to the average power ratings of standard flexible and semiflexible coaxial cables under the conditions noted.

2. These power ratings must be derated by correction factors for the ambient temperature, altitude and VSWR encountered in a particular application. High ambient temperature and high altitude reduce the power rating of a cable by impeding the heat transfer out of the cable. VSWR reduces power rating by causing hot spots.

3. To select the cable construction for a particular requirement, determine the average input power at the highest frequency from system requirements. Then determine the effective average input power as follows:

$$\text{Effective Power} = \frac{\text{Average Power x (VSWR correction)}}{\text{(Temp. correction) x (Alt. correction)}}$$

Temperature and altitude corrections are shown on Figures 2 and 3.

$$\text{VSWR correction factor} = \tfrac{1}{2}\left(\text{VSWR} + \frac{1}{\text{VSWR}}\right) + \tfrac{1}{2}K^1\left(\text{VSWR} - \frac{1}{\text{VSWR}}\right)$$

where k^1 is shown in Figure 4 on page 4. Select a cable from Table III rated at this effective power level.

4. For special high power cables—see the Flexispline and Alumispline sections.

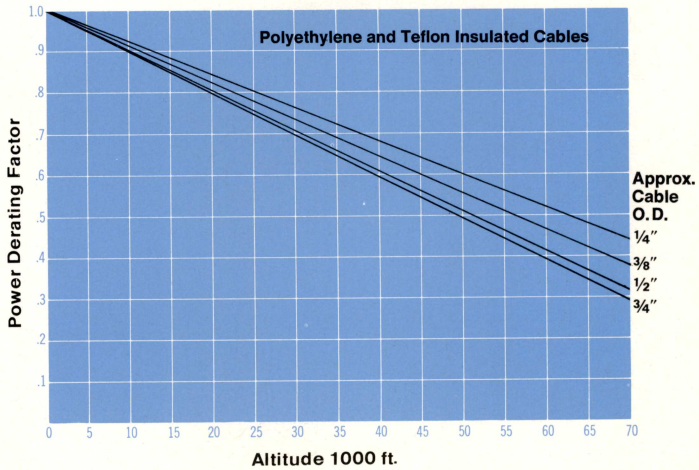
F. Maximum operating voltage (A.C.)

1. A cable cannot operate continuously with corona which causes noise generation, dielectric damage and eventual breakdown. The maximum operating voltage must be less than the corona level (extinction voltage) of the cable. This should not be confused with the dielectric strength of the cable, which is a test voltage which is applied for one minute only during manufacture.

2. Maximum operating A.C. (RMS) voltage levels or peak voltage are given for each construction in the Cable Data Section of this catalog. The maximum permissible D.C. voltage level is conservatively 3 times the A.C. level.

3. To select a cable for a particular application, determine the actual RMS (peak/1.4) or peak voltage (RMS x 1.4) from system requirements. Then determine the effective input voltage by multiplying the actual input voltage by the square root of the VSWR.

Fig. 3



Effective voltage = (Actual voltage x VSWR^{½})

Select a cable with a maximum operating voltage greater than the effective RMS voltage. Note that the maximum operating voltages are listed in the cable data section.

4. The maximum operating voltage of airspace. dielectric tubular sheathed cables can be increased by pressurizing with dry air or high dielectric strength gases. See Figure 5 for the ratio improvement which can be obtained with dry air and sulphur hexafluoride.

G. Attenuation

1. page 11 serves as a guide to the attenuation characteristics of the different standard RG coaxes at a temperature of 20°C.

2. Attenuation must be modified by a correction factor for the ambient temperature. Elevated temperature increases cable attenuation by increasing the resistivity of the conductors and by increasing the power factor of the dielectric (see Figure 6 for correction factor).

3. To select a cable construction for a particular application, determine the desired attenuation at the highest frequency from system requirements. Determine the corrected attenuation by dividing the desired attenuation by the temperature correction factor. Choose the smallest cable meeting the corrected attenuation value from page 11.

4. For cables exhibiting low attenuation characteristics —see Flexispline, Flexifoam, Stripflex, Alumifoam, and Alumispline.

H. Attenuation uniformity

1. The attenuation of any cable may not change uniformly as the frequency changes. Random and periodic impedance variations give rise to random and periodic attenuation responses. Narrow-band attenuation "spikes" such as that shown in Figure 8 can occur. If required, cables can be procured in various lengths where a maximum attenuation variation from nominal is specified on a swept basis.

I. Attenuation stability

1. The attenuation of braided cables can increase with time and flexure. The change with time can be caused by corrosion of the braided shield, by contamination of the primary insulation due to jacket plasticizers, and by moisture penetration through the jacket. (Vapor penetration occurs through all plastic and elastomeric materials). Attenuation degradation is more pronounced at frequen-

Fig. 4

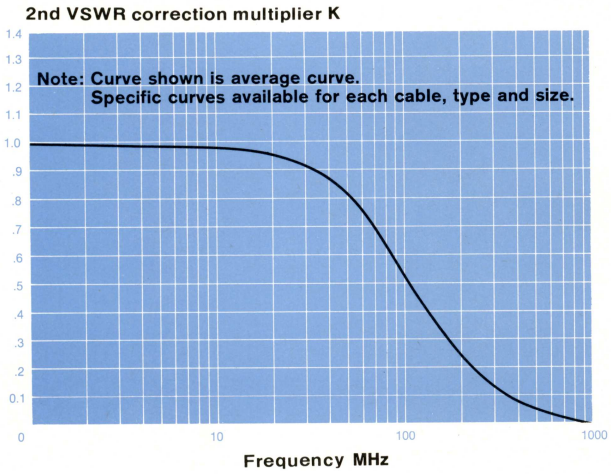


Fig. 5

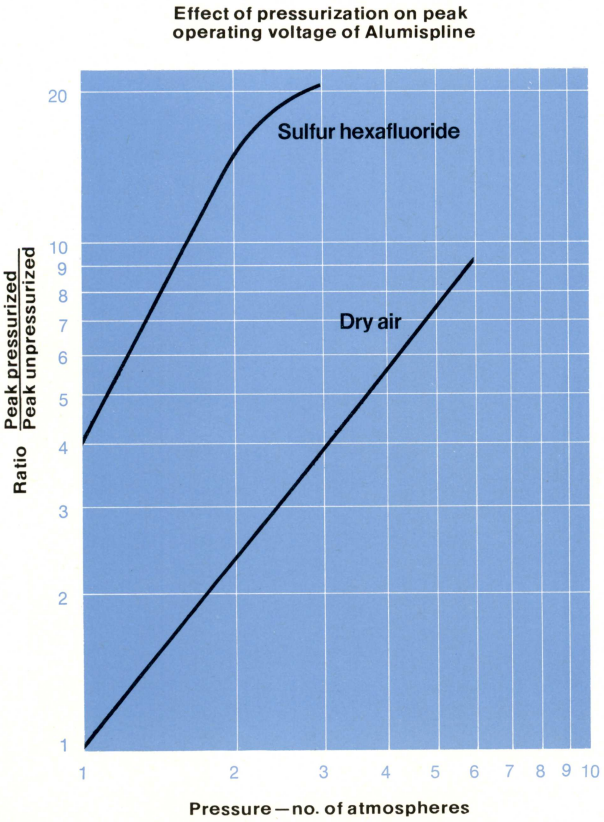
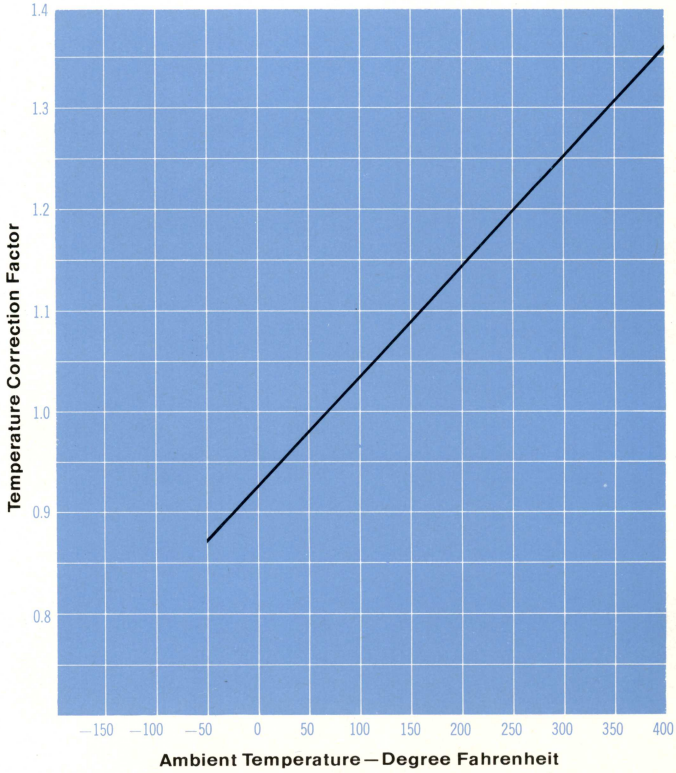


Fig. 6



cies above 1 GHz. Cables having bare copper and tinned copper braids exhibit far greater attenuation degradation than do cables having silver plated copper braids. These effects are illustrated in Figures 7, 9 and 10.

2. The following guidelines apply:

a. Tin plated braids—Below 1 GHz cables manufactured with tin plated braids have 15-20% more attenuation than bare copper braids in the "as manufactured" condition, but are more stable than bare copper braided cables.

b. Foam polyethylene—Flexible braided cables with foam polyethylene dielectrics have approximately 15% less attenuation than solid polyethylene cables of the same core size and impedance. However, the attenuation of foam polyethylene cables will increase if moisture is absorbed. In high humidity environments, the foam dielectric flexible cables should not be used above 200 MHz. Avoid the use of cables with the Type I PVC jackets as they have contaminating type plasticizers which will cause an attenuation increase. All of the above problems are minimized or eliminated by the use of the semiflexible cables. Foam polyethylene dielectrics may be used up to 12 GHz when protected from moisture by the seamless aluminum tube sheath construction (Times Alumifoam® cables).

3. For flexible cables in extreme environmental conditions, a protected braid is recommended. See Imperveon® cables.

J. Velocity of propagation

1. The velocity of propagation of cable is determined primarily by the dielectric constant of the insulating material between the conductors. This property is usually expressed as a percentage of the velocity of light in free space.

2. The following table shows the velocity of propagation and time delay of cables insulated with the most widely used dielectrics (see table at top of next page).

Fig. 8

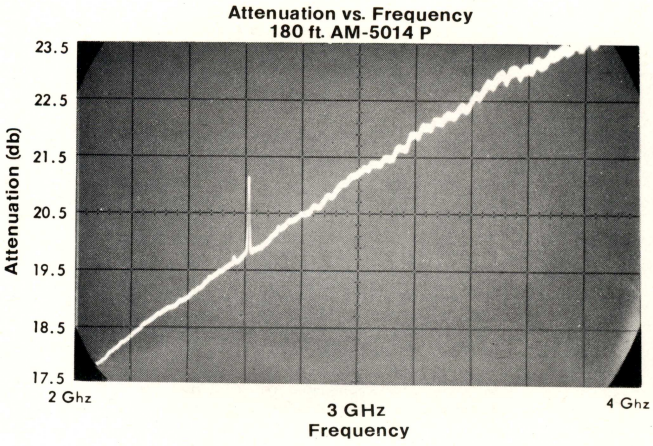


Fig. 9

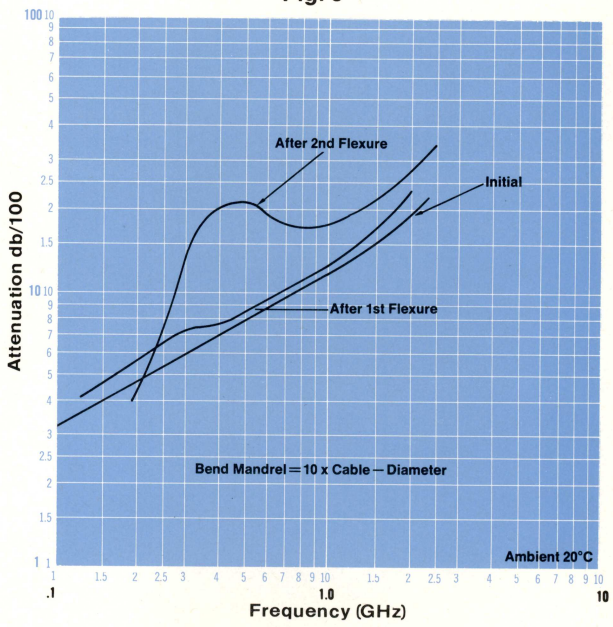


Fig. 7

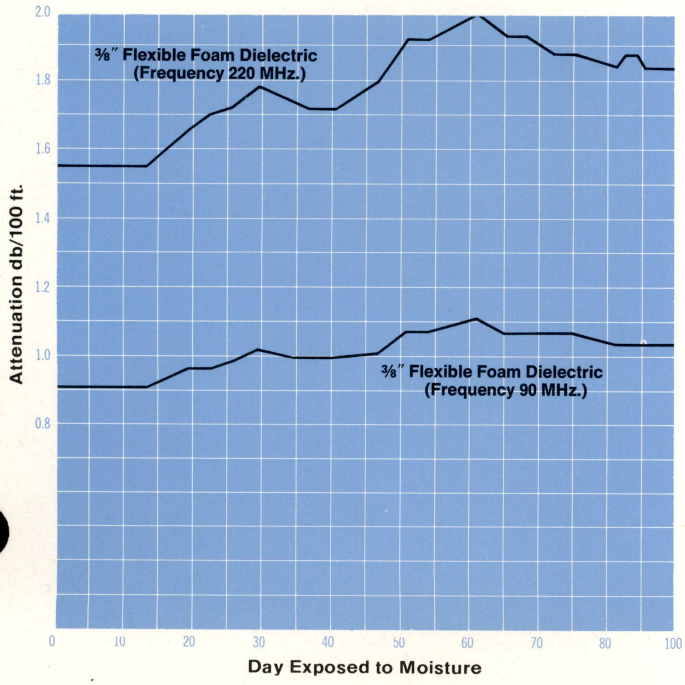
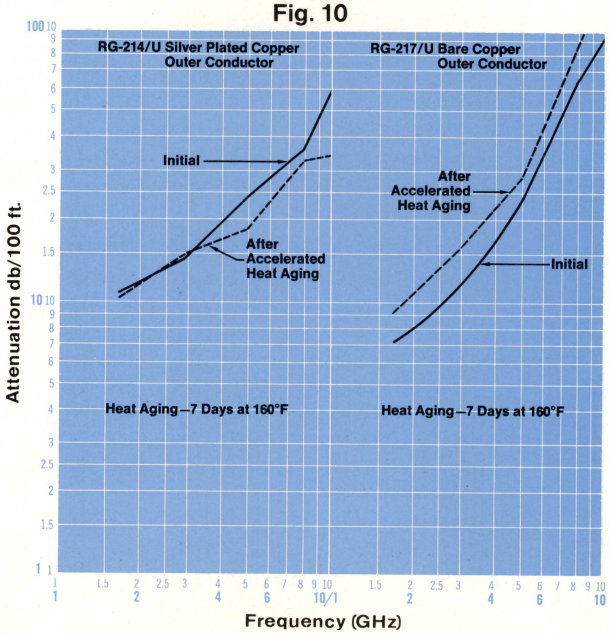


Fig. 10



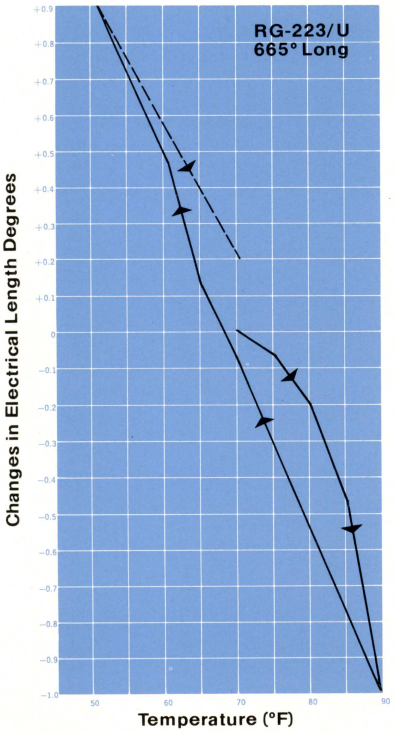
Cable Dielectric	TIME DELAY NANOSEC/FT	VELOCITY—%
Solid Polyethylene	1.54	65.9%
Foam Polyethylene	1.27	80.0%
Foam Polystyrene	1.12	91.0%
Air Space Polyethylene	1.15-1.21	84% to 88%
Solid Teflon	1.46	69.4%
Air Space Teflon	1.13-1.20	85% to 90%

3. Modified coaxial structures using a helical wrapped center conductor are available with time delays ranging from 10 to 100 nanoseconds per foot. Balanced helical structures are also available with time delays, up to 50 nanoseconds per foot.

K. Electrical length stability

Applications such as antenna feed systems require many cable assemblies that are trimmed to specific electrical length. In these applications the change of the electrical length of the cable with temperature, flexure,

Fig. 11



tension and other environmental factors is critical.

The variation of electrical length with temperature for standard flexible cables is as follows: (See Figure 11)

For polyethylene insulated cables: —100 to —250 parts/million/°C.

For TFE insulated cables: —50 to —100 parts/million/°C.

The variation of electrical length with temperature for the standard foam dielectric semiflexible cables is —20 to —30 parts/million/°C.

Times has special flexible and semiflexible cable designs with improved electrical length versus temperature characteristics. Semiflexible cables having an electrical length change with temperature as low as five parts/million per degree centigrade are available. See Phase Compensated Coaxial Cable.

L. Pulse response of coaxial cables

1. The following characteristics must be considered when analyzing the Time Domain response of cable to pulses or step functions: a—Impedance and Reflection; b—Rise Time; c—Amplitude; d—Overshoot or Preshoot; e—Pulse Echoes

a. Impedance and Reflection

1. Select impedance to match system requirements.

2. The impedance will vary along the length of cable. Variations of ±5% are not uncommon. Cables can be produced to tolerances of ±2%. Tighter tolerances are not recommended.

b. & c. Rise Time and Amplitude

1. The output rise time is a function of input rise time, pulse width and cable attenuation. A typical pulse response is shown in Figures 12 and 13, while a typical step response is shown in Figure 14. Increased cable temperature causes an increase in rise time and decrease in amplitude.

Fig. 12

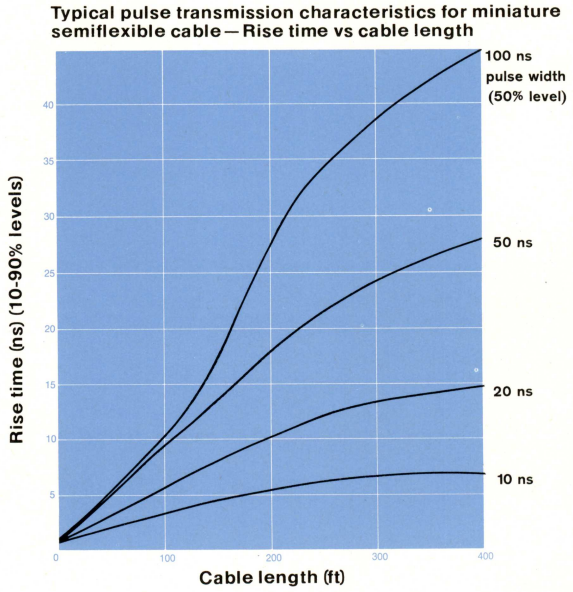
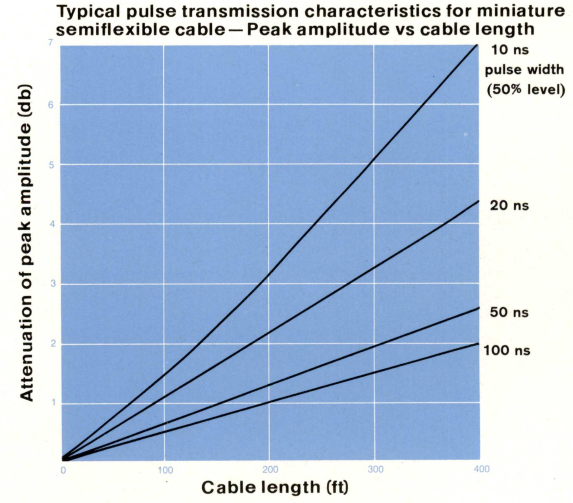

Typical pulse transmission characteristics for miniature semiflexible cable—Rise time vs cable length
100 ns pulse width (50% level)
50 ns
20 ns
10 ns
Rise time (ns) (10-90% levels)
Cable length (ft)

Fig. 13


Typical pulse transmission characteristics for miniature semiflexible cable—Peak amplitude vs cable length
10 ns pulse width (50% level)
20 ns
50 ns
100 ns
Attenuation of peak amplitude (db)
Cable length (ft)

d. Overshoot or Preshoot

1. Figure 14 shows the overshoot which can be encountered with a 0.1 ns input pulse rise time in cables due to finite reflections. Such overshoot is not common in cables with longitudinally extruded dielectrics such as Alumifoam or Alumispline.

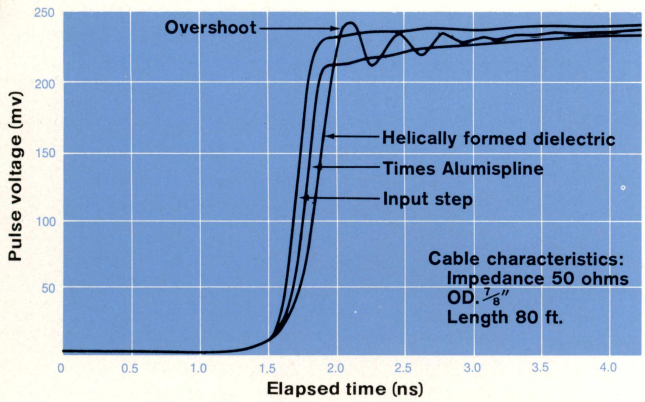
2. Preshoot is encountered in some balanced delay lines and can be minimized by cable design.

e. Pulse echoes

When a narrow pulse is placed on a cable, the distor-

Fig. 14

Step response of air dielectric semiflexible cables—output amplitude vs time



tions noted above will occur. In addition a small pulse of energy may emerge after the initial pulse has arrived. This pulse echo is caused by finite periodic reflections within the cable. Normally the echo level can be neglected.

M. Shielding and cross-talk (or Isolation)

1. The shielding efficiency of a coaxial cable depends entirely on the construction of its outer conductor.

The most common constructions available are:

Single Braid	Consisting of bare, tinned, or silver plated round copper wires (85-90% coverage).
Double Braid . .	Consisting of two single braids as described above with no insulation between them.
Triaxial . . .	Consisting of two single braids as described above with a layer of insulation between them.
Strip Braids	Consists of flat strips of copper rather than round wires (90% coverage).
Solid Sheath .	Consisting of aluminum or copper tubing.

2. The relative shielding efficiencies of these constructions are illustrated in Figure 15 over the frequency range from 10 MHz to 8 GHz. This graph shows the level of signal which leaks through the outer shield of a one foot sample of each construction. The curves describing the performance of the flexible cables, i.e., the Triax braid, double braid, and single braid construction are based on measured data. To estimate leakage in cables under 1100 ft. long, add 20 log L from the figure read from the graph (where L is the cable length in feet). The curve showing the performance of the semi-flexible (or solid sheath) cables is based on the resolution of presently available measuring equipment. In practice the shielding efficiency of interconnections made using semi-flexible (solid sheath) cables is limited by the leakage at the connectors.

3. The total isolation (or cross talk) between two coax cable runs is the sum of the isolation factors of the two outer conductors of the adjacent cables and the isolation due to the "coupling factor" between the runs. This coupling factor will depend on the relative spacing and positioning of the cable runs and on the grounding practices employed. The coupling factor can substantially affect the isolation between the cable runs.

4. Measurements show that the RF(1-30 MHz) cross talk between two single braided coaxes over a 20 foot run length is approximately 80 db down from the signal level inside the cables. The coaxes were laid side-by-side over the 20 foot test length.

5. Special Constructions—Strip Braid Shields
Times has developed a special shield construction made up of wide strips of silver plated copper which are braided together into the familiar basket-weave construction. This differs from the stranded braid construction where small diameter round copper wires are laid side by side to make up a braid "Carrier," which is then woven into the familiar basket-weave construction. The strip braid cables are only manufactured in silver plated strip construction. Conservative values for the improvement in shielding efficiency is shown in Figure 15.

N. Cut-off frequencies

The cut-off frequency of a coaxial cable is that frequency at which modes of energy transmission other than the TEM mode can be generated. It does not mean that the TEM mode becomes highly attenuated. This frequency is a function of the mean diameter of the conductors and the velocity of propagation of the cable. The higher modes are only generated at impedance discontinuities and in many situations the cable can be operated above cut-off without substantial VSWR or insertion loss increase. However, it is recommended that in general usage the cut-off frequency not be exceeded.

O. Self-generated cable noise

1. A phenomenon noted in cable is that when flexed, the cable generates an acoustical noise and an electrical noise. The acoustical noise is a function of mechanical motion within the cable. Such noise can be minimized by proper cable design. Electrical noise generation is attributed to an electrostatic effect, which has exhibited more than 500 millivolts in RG cable. This noise voltage can be minimized by preventing motion between dielectrics and conductors or dissipating electrostatic charges between conductor and dielectrics with semiconducting layers. Low noise constructions must take into account the life expectancy and environmental conditions to which they are subjected. Times manufactures low noise cables for special applications.

P. Operating temperature range

1. The operating temperature range of flexible coaxial cable is determined primarily by the operating temperature range of the dielectric and jacketing materials. Note that only silver plated conductors are suitable for long term use at temperatures over 80°C.

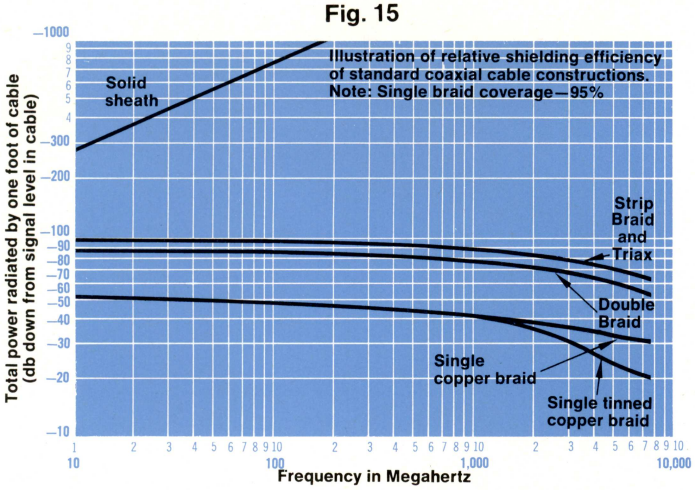
2. Operating temperature limits of the most commonly used dielectrics and jacket types are given in the following table:

MATERIAL	
Primary Dielectrics	
Polytetrafluoroethylene (PTFE)	—250°C to +250°C
Polyethylene	—65°C to +80°C
Foamed Polyethylene	—65°C to +80°C
Foamed or Solid Ethylene Propylene	—40°C to +105°C
Jackets	
Fluorinated Ethylene Propylene (FEP)	—70°C to +200°C
Polyvinylchloride (PVC)	—50°C to +105°C (depending on compound used)
Polyurethane	—100°C to +125°C (depending on compound used)
Nylon	—60°C to +120°C
Ethylene Propylene	—40°C to +105°C
High Molecular Weight Polyethylene	—55°C to +85°C
Silicone Rubber	—70°C to +200°C
Silicone Impregnated Fibreglass	—70°C to +250°C
High Temperature Nylon Fibre	—100°C to +250°C

Q. Flexibility

Coaxial cables with stranded center conductor and braided outer conductors are intended for use in those applications where the cable must flex repeatedly while in service. Standard braid constructions will withstand over 1000 flexes through 180° if bent over a bend radius equal to 20 times the O.D. of the cable. Flexible cables may

Fig. 15



be stored and are normally shipped on reels with a hub radius equal to 10 times the O.D. of the cable. If a flexible cable is to be installed in a fixed, bent configuration, the minimum bend radius recommended is 5 times the cable O.D. Tighter bends can be made. Special braid designs are available for improved flex-life.

Coaxial cables with a tubular aluminum outer conductor, commonly referred to as semiflexible cables, will not withstand more than ten 180° bends over a bend radius equal to 20 times the O.D. of the cable. Semi-flex cables are normally shipped on reels having a hub radius of 20 times the O.D. of the cable.

Semi-flex cables may be field bent for installation. The minimum recommended bend radius is equal to 10 times the O.D. of the cable. Cables bent on a bend radius of 5 times the O.D. of the cable may exhibit mechanical and electrical degradation. Times has developed special bending techniques where bend radius of 5 times cable O.D. may be used with negligible change in electrical characteristics.

R. Environmental resistance

The life of a coaxial cable depends on many factors; the materials used, ultra-violet exposure, high humidity, galvanic action, salt-water corrosive vapors are prime causes of cable failure. Resistance to flame must also be considered.

The following guidelines apply:

a. Sunlight—For low temperature cables exposed to sunlight (ultra-violet), the use of high molecular weight polyethylene, with a specific carbon black particle size, % by weight and particle distribution, is recommended for maximum life expectancy. Polyvinyl chloride jackets exhibit a life expectancy of less than ½ that of properly compounded polyethylene.

b. High Humidity—Vapor can enter flexible cables through pin-holes in the jacket, the terminations or by vapor transmission through the plastic or elastomeric jacket. All materials exhibit a finite vapor transmission rate. For example, a ten foot length of cable would exhibit a helium leak rate of approximately 10^{-4} cc/sec. Because of extrusion techniques even FEP does not offer any improvement over that figure. The combination of finite vapor transmission rates and large temperature extremes appears to cause condensation in cables. If the cables were tilted, this moisture could collect in a low area causing rapid corrosion or shorting of a connector. One method of preventing moisture accumulation in cables is to fill all voids with a moisture-proofing compound which will not harden with age. See Imperveon Cables for additional data.

c. Salt-water Immersion—The electrical characteristics of cable will be rapidly affected if the conductors are exposed to salt-water. Unless an immersion test is performed on the jacket, there is a good possibility of one pinhole per 1000 feet. Even if sufficient tests could be performed, damage during installation or due to animal damage normally will cause leakage. Cables are recommended which withstand the pressure at the cable depth. See Pressuretight Nonhosing Cables.

d. Corrosive Vapors—The use of tin and silver coatings does afford some protection against corrosive vapors. However, such protection is short-lived. For installation near salt-water or chemical plants, a filled cable such as Imperveon is recommended.

e. Underground Burial & Galvanic Action—Underground moisture which comes in contact with any cable metals, will cause rapid corrosion. Tubular aluminum outer conductors have been almost destroyed in 90 days. Therefore, any cables installed underground should have pinhole free jackets. Since jacket damage due to installation techniques and rodents could occur, cables filled with a flooding compound should be used. In plastic jacketed tubular aluminum cables, a flooding compound should be used under the jacket. For maximum reliability against rodents, a steel tape armor with over-jacketing is recommended.

f. Flame Resistance—

1. Flame resistance of cables is a characteristic which should be understood. Cables have different degrees of flame resistance. "Flame retardant" cables are cables over which a flame will not travel when one end is subjected to a flame. Cables with PVC jackets are normally considered flame retardant.

2. Flame retardant jackets which are actually within the flame will burn. If the flame is removed, they will cease to burn. PVC will not drip burning material. However, if the dielectric is polyethylene, the dielectric may drip ignited materials. PTFE and FEP are the most commonly used materials which will not support combustion, drip or burn.

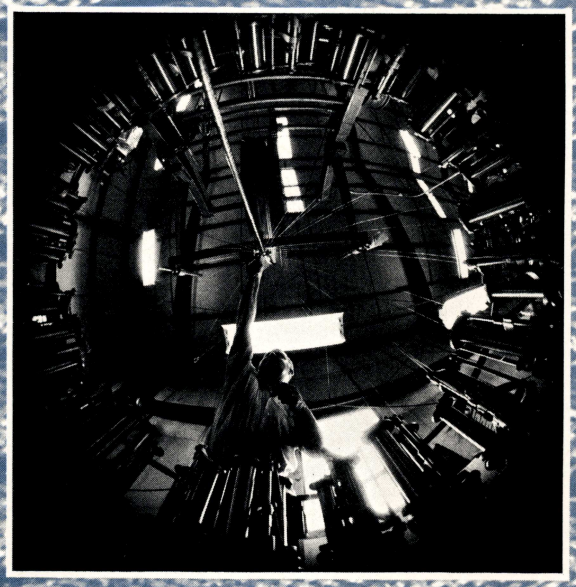
S. Cable Strength

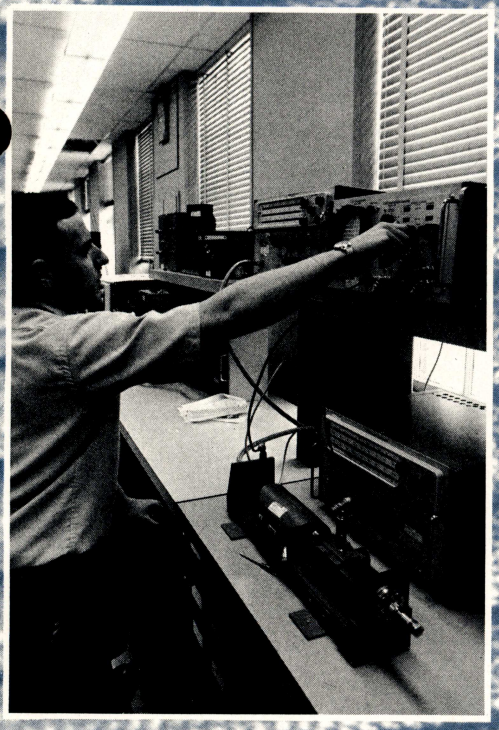
The break strength of the cable depends primarily on the strength of the outer conductor. The cables will normally achieve at least 70% of the break strength of the outer conductor, if the center conductor will stretch up to 10% before breakage. Caution must be taken with cables with copper-covered steel or alloy center conductors where breakage would occur with only 1 to 10% elongation. Conductor sizes less than 26 AWG can easily be broken during assembly operation. Special alloy conductors are available which can achieve a tensile strength of 110,000 psi and 10% elongation.

T. Qualification approval (& UL)

1. Military—Most military applications require that cables conform to specific specifications. Many of these specifications list qualification tests which are to be performed and require that the product has passed the applicable Qualified Products List. MIL-C-17D which is the basic specification for most flexible RG type cables is an example of a specification requiring approval for listing on the Qualified Products List.

2. Commercial (UL) approval—The building codes of many cities require that cables installed in their buildings be approved by the Underwriters Laboratories (UL). With UL service, the cable is subjected to a clearly defined series of tests and examinations, and has met the quality and safety standards imposed by Underwriters Laboratories. A large variety of UL approved designs (style numbers) are available. Approval of new designs meeting UL standards normally can be made in a relatively short period of time.





RG Cable Data

CONDITIONS:
Ambient: 40 C.
Altitude: Sea Level
Center Conductor Temperature:
80 C. for Polyethylene
200 C. for PTFE

Maximum Power Handling Capability

Average Input Power In Watts

Frequency In MHz

NOTE: Values above 3GHz vary considerably depending upon construction. See Application Notes for Derating Factors.

RG/U	10	50	100	200	400	1,000	3,000	5,000	10,000
5, 5A, 5B, 6A, 6B	2,000	800	550	350	230	125	60	40	22
7	3,700	1,300	850	540	350	190	95	65	37
8, 8A, 10A, 70, 213, 215	3,700	1,300	850	540	350	190	95	65	37
9, 9A, 9B, 214	3,700	1,300	850	540	350	190	95	65	37
11, 11A, 12, 12A, 13, 13A, 216	2,500	1,000	650	400	260	150	70	50	26
14, 14A, 74, 74A, 217, 224, 293, 293A, 388	6,000	2,000	1,200	800	480	260	120	85	50
17, 17A, 18, 18A, 177, 218, 219, 295	18,000	5,400	3,200	1,900	1,100	560	240	160	—
19, 19A, 20, 20A, 147, 220, 221	25,000	7,500	4,500	2,700	1,600	800	340	— —	—
21, 21A, 222	340	160	115	82	60	38	15	— —	— —
22, 22B, 111, 111A	1,700	650	430	280	190	110	50	38	20
29	1,150	480	340	230	160	95	50	35	18
34, 34A, 34B	7,300	2,700	1,700	1,050	680	380	140	80	— —
35, 35A, 35B, 164	15,000	5,800	3,800	2,500	1,650	950	370	210	— —
54, 54A	1,750	700	470	310	210	120	60	40	21
55, 55A, 55B, 223	800	310	205	137	90	53	28	20	10
57, 57A, 130, 131, 294, 294A	3,400	1,300	825	540	360	210	90	50	— —
58, 58B	730	280	180	125	85	50	25	17	— —
58A, 58C	650	255	170	110	75	44	22	15	— —
59, 59A, 59B	1,300	480	310	200	135	77	40	27	15
62, 62A, 71, 71A, 71B	1,300	480	310	200	135	77	40	27	15
62B	1,150	420	280	180	120	69	35	25	14
63, 63B, 79, 79B	3,000	1050	680	490	340	200	90	51	28
72, 125	2,300	920	620	430	280	170	65	45	—
87A, 115, 115A, 116, 165, 166, 225, 227, 393, 397	25,000	9,500	6,300	4,300	2,800	1,700	880	620	350
94	25,000	9,500	6,300	4,300	2,800	1,700	880	620	350
94A, 226	46,000	17,500	11,500	7,500	5,000	2,900	1,500	1,000	600
108, 108A	340	145	100	70	50	30	15	— —	— —
114, 114A	1,150	480	340	230	160	95	50	35	18
117, 117A, 118, 211, 211A, 228, 228A	101,000	38,000	25,000	16,000	10,000	5,800	2,900	1,950	— —
119, 120	35,000	13,500	9,000	6,000	4,000	2,300	1,200	850	490
122	540	205	140	90	60	35	18	12	— —
140, 141, 141A, 142, 142B, 159, 302, 303,400,402	9,000	3,500	2,400	1,600	1,100	650	350	245	140
143, 143A, 304 ,401	11,500	4,600	3,200	2,100	1,450	870	460	330	190
144	25,000	9,500	6,300	4,300	2,800	1,700	880	620	350
161, 179, 179A, 179B, 187, 187A	1,600	780	570	420	310	200	110	76	41
174, 174A	170	72	50	36	25	16	— —	— —	— —
178, 178A, 178B, 196, 196A,403, 404	710	340	240	170	123	78	41	28	14
180, 180A, 180B, 195, 195A	2,500	1,100	800	570	400	250	135	93	50
183	14,000	6,000	4,400	3,000	2,100	1,300	670	470	— —
188, 188A, 316	1,250	600	450	330	240	160	80	57	30
197, 232	18,000	8,100	5,800	4,000	2,800	1,700	820	600	— —
198	6,800	3,100	2,200	1,600	1,100	650	360	270	180
199	15,000	7,000	5,000	3,400	2,400	1,400	740	540	— —
200	42,000	18,000	13,000	8,700	5,800	3,300	1,700	—	—
209, 281	101,000	38,000	25,000	16,000	10,000	5,800	2,900	1,950	1,050
231, 331, 210	8,500	3,300	2,300	1,600	1,100	620	310	220	140
233, 240	48,000	21,000	15,000	10,000	6,800	3,900	2,100	— —	— —
234, 242	130,000	53,000	37,000	24,000	17,000	9,200	— —	— —	— —
235	25,000	9,500	6,300	4,300	2,800	1,700	880	620	350
236, 237	7,500	3,700	2,600	1,800	1,200	730	380	280	180
244, 245	6,000	2,800	1,900	1,300	920	580	300	220	150
246, 247	13,000	5,900	4,200	2,900	2,100	1,200	630	450	— —
248, 249	38,000	17,000	12,000	8,000	5,500	3,200	1,700	—	—
250, 251	100,000	42,000	28,000	19,000	13,000	7,200	— —	— —	— —
252, 253	8,000	3,500	2,500	1,800	1,200	750	380	280	180
254, 255	19,000	8,000	5,700	4,000	2,800	1,700	850	600	—
256	36,000	16,000	11,000	7,700	5,400	3,400	1,800	1,200	— —
257, 258	50,000	21,000	15,000	10,000	7,000	4,100	2,000	— —	— —
259	8,700	3,800	2,600	1,800	1,300	800	430	320	200
263	65,000	26,000	17,000	12,000	8,000	4,800	2,600	1,900	1,300
265, 267, 270, 270A, 270B, 319, 319A	48,000	21,000	14,000	10,000	7,000	4,200	2,100	—	—
268, 366	7,800	3,300	2,200	1,600	1,000	570	280	190	120
269, 269A, 297, 318	22,000	9,000	6,200	4,300	3,000	1,900	1,000	700	—
279	4,500	1,900	1,350	950	660	410	230	160	91
280	46,000	17,500	11,500	7,500	5,000	2,900	1,500	1,000	600
282	1,200	600	450	330	240	160	80	56	30
284, 284A	16,000	6,200	4,300	3,000	2,100	1,300	700	530	— —
285A	— —	— —	— —	— —	— —	— —	— —	— —	— —
286, 292	35,000	15,000	10,000	7,000	4,800	2,900	1,700	— —	— —
288, 321, 322	90,000	38,000	26,000	18,000	13,000	7,200	— —	— —	— —
289	63,000	27,000	19,000	13,000	9,100	5,000	— —	— —	— —
306, 306A, 336	15,000	5,500	3,700	2,500	1,700	1,000	460	300	— —
307, 307A	1,300	470	310	200	130	76	39	28	15
323, 324, 332, 333, 376	17,000	6,900	4,700	3,200	2,100	1,200	550	360	—
325	3,800	1,300	840	540	340	190	92	64	37
326	11,000	3,400	2,000	1,200	720	380	170	115	— —
327	23,500	6,900	4,000	2,350	1,400	700	300	— —	— —
334, 335	6,600	2,700	1,800	1,300	860	510	260	190	110
360	12,000	5,100	3,500	2,300	1,600	900	450	290	— —
367	250,000	110,000	75,000	51,000	35,000	21,000	—	—	—
369, 370	4,300	1,900	1,400	960	670	400	220	160	110
377	16,000	6,800	4,700	3,300	2,300	1,400	760	560	350
385	70,000	26,000	16,000	11,000	7,000	4,200	2,300	1,700	1,100
389, 189	20,000	5,400	3,100	2,100	1,500	800	400	— —	— —

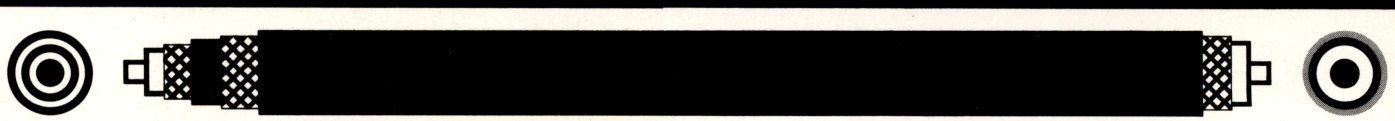
Nominal Loss Characteristics

CONDITIONS:
Ambient: 20 C.

Decibels Per Hundred Feet
Frequency In MHz

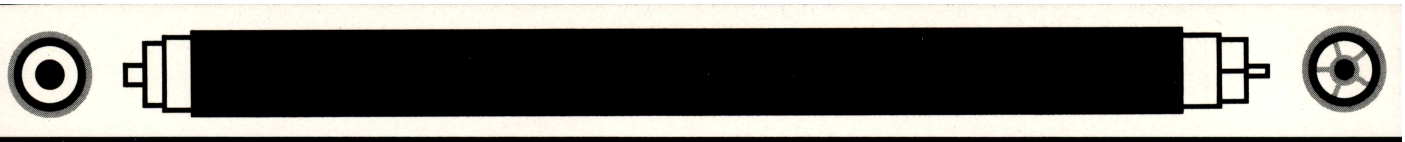
NOTE: Values above 3GHz vary considerably depending upon construction. See Application Notes for Attenuation Correction Factors due to ambient change.

RG/U	10	50	100	200	400	1,000	3,000	5,000	10,000
5, 5A, 5B, 6A, 6B	.80	1.40	2.90	4.30	6.40	11.00	22.00	30.00	52.00
7	.66	1.50	2.20	3.20	4.60	9.00	19.00	28.00	47.00
8, 8A, 10A, 70, 213, 215	.66	1.50	2.20	3.20	4.60	9.00	19.00	28.00	47.00
9, 9A, 9B, 214	.66	1.50	2.20	3.20	4.60	9.00	19.00	28.00	47.00
11, 11A, 12, 12A, 13, 13A, 216	.66	1.50	2.20	3.20	4.60	9.00	19.00	28.00	–
14, 14A, 74, 74A, 217, 224, 293, 293A, 388	.41	1.00	1.40	2.10	3.10	5.80	13.00	19.00	31.00
17, 17A, 18, 18A, 177, 218, 219, 295	.23	.56	.81	1.20	1.90	3.80	9.00	13.50	–
19, 19A, 20, 20A, 147, 220, 221	.17	.43	.63	.94	1.50	3.00	7.00	–	–
21, 21A, 222	4.40	9.40	12.90	18.20	26.50	44.00	87.00	–	–
22, 22B, 111, 111A	1.20	2.80	4.20	6.30	9.50	–	–	–	–
29	1.35	3.00	4.30	6.00	8.80	16.50	36.00	51.00	85.00
34, 34A, 34B	.32	.90	1.40	2.10	3.30	5.80	16.00	28.00	–
35, 35A, 35B, 164	.24	.60	.90	1.30	2.00	3.70	8.90	15.00	–
54, 54A	.90	2.20	3.30	4.60	6.90	13.10	26.20	35.00	–
55, 55A, 55B, 223	1.35	3.00	4.30	6.00	8.80	16.50	36.00	51.00	85.00
57, 57A, 130, 131, 294, 294A	.65	1.60	2.40	3.60	5.20	10.00	21.20	–	–
58, 58B	1.20	3.10	4.60	7.00	10.00	17.50	38.00	–	–
58A, 58C	1.40	3.30	4.90	7.30	11.00	20.00	41.00	–	–
59, 59A, 59B	1.10	2.30	3.30	4.70	6.70	11.50	25.50	41.00	–
62, 62A, 71, 71A, 71B	.90	1.90	2.80	3.70	5.20	8.50	18.40	29.50	–
62B	.90	2.10	3.00	4.30	6.10	10.50	23.50	36.00	–
63, 63B, 79, 79B	.50	1.10	1.50	2.30	3.40	5.70	12.20	20.90	–
72, 125	.50	1.10	1.60	2.30	3.60	6.20	13.50	22.00	–
87A, 115, 115A, 116, 165, 166, 225, 227, 393, 397	.60	1.40	2.10	3.10	4.50	7.50	14.00	21.00	35.00
94	.60	1.30	2.00	2.90	4.20	7.10	13.00	19.00	33.00
94A, 226	.40	1.00	1.50	2.10	3.00	5.00	10.00	15.00	27.00
108, 108A	2.30	5.20	7.50	11.00	16.00	26.20	54.00	–	–
114, 114A	1.30	2.10	2.90	4.40	6.70	11.60	26.00	40.00	–
117, 117A, 118, 211, 211A, 228, 228A	.25	.61	.90	1.40	2.00	3.40	7.50	11.50	–
119, 120	.50	1.05	1.60	2.20	3.10	5.10	10.20	15.20	27.30
122	1.60	4.40	6.90	11.00	16.60	29.20	57.20	89.00	–
140,141,141A,142,142B,159,302,303,400,402	1.20	2.70	3.90	5.50	8.00	13.00	26.00	36.00	62.00
143, 143A, 304,401	.85	1.80	2.50	3.80	5.70	9.70	18.10	26.10	40.70
144	.38	1.00	1.60	2.30	3.80	7.00	15.10	–	–
161, 179, 179A, 179B, 187, 187A	5.00	7.90	9.80	12.70	15.80	25.00	43.00	62.50	135.00
174, 174A	3.80	6.50	8.90	12.00	17.50	31.00	64.30	97.00	185.00
178, 178A, 178B, 196, 196A , 403, 404	5.30	10.00	13.30	20.00	27.50	45.00	78.00	115.00	172.00
180, 180A, 180B, 195, 195A	3.10	4.20	5.10	7.30	10.40	16.50	36.00	49.50	89.00
183	.18	.38	.53	.78	1.20	1.90	3.70	5.00	–
188, 188A, 316	3.80	7.90	11.50	15.00	20.00	30.00	58.00	79.00	133.00
197, 232	.14	.31	.43	.63	.93	1.60	3.10	4.20	–
198	.23	.53	.78	1.20	1.70	2.80	5.10	6.80	10.00
199	.17	.28	.41	.58	.87	1.50	2.90	4.10	–
200	.07	.16	.23	.33	.51	.93	1.80	–	–
209, 281	.21	.63	1.00	1.60	2.30	4.00	7.60	10.50	18.00
231, 331, 210	.23	.58	.85	1.30	1.90	3.10	6.50	9.00	15.00
233, 240	.08	.17	.23	.33	.49	.85	1.80	–	–
234, 242	.04	.09	.13	.18	.28	.51	–	–	–
235	.60	1.40	2.10	3.10	4.50	7.50	14.00	21.00	35.00
236, 237	.25	.59	.82	1.25	1.80	2.90	5.30	7.20	–
244, 245	.23	.50	.71	1.10	1.60	2.50	4.80	6.30	12.00
246, 247	.13	.28	.39	.58	.83	1.50	2.80	4.00	–
248, 249	.07	.15	.22	.31	.48	.85	1.80	–	–
250, 251	.04	.08	.12	.18	.28	.52	–	–	–
252, 253	.23	.52	.70	1.05	1.50	2.40	4.60	6.50	12.00
254, 255	.13	.30	.42	.60	.86	1.40	2.70	4.00	–
256	.16	.35	.50	.71	1.00	1.70	3.40	4.90	–
257, 258	.07	.16	.23	.32	.46	.76	1.70	–	–
259	.40	.91	1.30	1.90	2.75	4.40	7.60	10.50	16.00
263	.20	.48	.70	1.00	1.50	2.50	4.50	6.00	9.00
265, 267, 270, 270A, 270B, 319, 319A	.06	.14	.20	.30	.44	.76	1.70	–	–
268, 366	.25	.59	.85	1.20	1.80	2.90	5.70	8.30	18.00
269, 269A, 297, 318	.12	.27	.38	.45	.80	1.35	2.60	4.00	–
279	1.40	3.30	4.90	7.30	11.00	20.00	41.00	–	–
280	.37	.90	1.30	2.00	2.90	4.70	9.60	14.00	25.00
282	1.50	3.70	5.20	7.60	11.00	18.00	34.00	48.00	80.00
284, 284A	.11	.25	.35	.44	.75	1.20	2.30	3.80	–
285A	.09	.19	.30	.41	.69	1.00	1.90	3.10	–
286, 292	.05	.13	.19	.29	.41	.55	1.30	–	–
288, 321, 322	.04	.10	.15	.20	.30	.50	–	–	–
289	.04	.10	.15	.20	.30	.50	–	–	–
306, 306A, 336	.15	.33	.52	.80	1.30	2.30	5.20	7.80	–
307, 307A	1.20	2.70	3.80	5.40	7.50	12.00	–	–	–
323, 324, 332, 333, 376	.15	.32	.50	.75	1.20	2.10	4.70	6.50	–
325	.36	.90	1.40	2.00	3.00	5.10	10.00	14.10	26.00
326	.24	.60	.90	1.30	1.80	3.20	6.20	8.40	–
327	.16	.42	.65	.93	1.40	2.50	4.70	–	–
334, 335	.25	.60	.85	1.20	1.90	3.50	7.00	10.00	18.00
360	.18	.40	.60	.90	1.50	2.50	5.30	7.50	–
367	.35	.80	1.20	1.80	2.30	4.00	7.50	10.00	–
369, 370	.34	.80	1.10	1.70	2.40	3.40	6.80	9.50	16.00
377	.28	.65	.92	1.30	1.90	3.10	5.70	7.80	13.00
385	.26	.65	.96	1.40	2.10	3.60	6.90	9.70	16.00
389, 189	.20	.46	.70	1.00	1.50	2.50	5.30	–	–



RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
1-3	WAVEGUIDE											Waveguide Not manufac.
4	0.0320" BC	PE	0.116	2: BC	PVC-I	0.226	0.025	50.0	30.8	−40 +80	1,900	Use RG58C
5	0.0508"BC	PE	0.185	2: BC	PVC-I	0.332	0.088	52.5	28.5	−40 +80	3,000	Use up to 100 MHz
5A	0.0508"SC	PE	0.181	2: SC	PVC-II	0.328	0.088	50.0	30.8	−40 +80	3,000	Use RG212
5B	0.0508"SC	PE	0.181	2: SC	PVC-IIA	0.328	0.087	50.0	30.8	−40 +80	3,000	Use RG212
6	0.0285" CCS	PE	0.185	2: Inner SC Outer BC	PVC-II	0.332	0.081	76.0	20.0	−40 +80	2,700	Use RG6A
6A	0.0285" CCS	PE	0.185	2: Inner SC Outer BC	PVC-IIA	0.332	0.082	75.0	20.6	−40 +80	2,700	Good attenuation stability
7	0.0359" BC	Air-space PE	0.250	1: BC	PVC-I	0.370	0.080	95.0	12.5	−40 +80	1,000	Use RG63B
8	0.0855" 7/0.0285" BC	PE	0.285	1: BC	PVC-I	0.405	0.106	52.0	29.5	−40 +80	4,000	Use RG213
8A	0.0855" 7/0.0285" BC	PE	0.285	1: BC	PVC-IIA	0.405	0.106	52.0	29.5	−40 +80	5,000	Use RG213
9	0.0855" 7/0.0285" SC	PE	0.280	2: Inner SC Outer BC	PVC-II	0.420	0.140	51.0	30.0	−40 +80	4,000	Use RG214
9A	0.0855" 7/0.0285" SC	PE	0.280	2: SC	PVC-II	0.420	0.140	51.0	30.0	−40 +80	4,000	Use RG214
9B	0.0855" 7/0.0285" SC	PE	0.280	2: SC	PVC-IIA	0.420	0.150	50.0	30.8	−40 +80	5,000	Use RG214
10	0.0855" 7/0.0285" BC	PE	0.285	1: BC	PVC-II w. Armor	0.475 max.	0.146	52.0	29.5	−40 +80	4,000	Use RG215
10A	0.0855" 7/0.0285" BC	PE	0.285	1: BC	PVC-IIA w. Armor	0.475 max.	0.146	52.0	29.5	−40 +80	5,000	Use RG215
11	0.0477" 7/0.0159 TC	PE	0.285	1: BC	PVC-I	0.405	0.096	75.0	20.6	−40 +80	4,000	Use up to 100 MHz
11A	0.0477" 7/0.0159" TC	PE	0.285	1: BC	PVC-IIA	0.405	0.096	75.0	20.6	−40 +80	5,000	Use up to 1000 MHZ
12	0.0477" 7/0.0159" TC	PE	0.285	1: BC	PVC-II w. Armor	0.475 max.	0.141	75.0	20.6	−40 +80	4,000	Use RG12A
12A	0.0477" 7/0.0159" TC	PE	0.285	1: BC	PVC-IIA w. Armor	0.475 max.	0.141	75.0	20.6	−40 +80	5,000	Use up to 1000 MHz
13	0.0477" 7/0.0159" TC	PE	0.280	2: BC	PVC-I	0.420	0.126	74.0	20.8	−40 +80	4,000	Use RG216
13A	0.0477" 7/0.0159" TC	PE	0.280	2: BC	PVC-IIA	0.420	0.126	74.0	20.8	−40 +80	5,000	Use RG216
14	0.102"BC	PE	0.370	2: BC	PVC-II	0.545	0.216	52.0	29.5	−40 +80	5,500	Use RG217
14A	0.1020" BC	PE	0.370	2: BC	PVC-IIA	0.545	0.216	52.0	29.5	−40 +80	7,000	Use RG217
15	0.0571" CCS	PE	0.370	2: BC	PVC-I	0.545	0.197	76.0	20.0	−40 +80	5,000	Use up to 1000 MHz
16	0.1250"BC tube	PE	0.460	1:BC	PVC-I	0.630	0.254	52.0	29.5	−40 +80	6,000	Use up to 1000 MHz
17	0.1880" BC	PE	0.680	1: BC	PVC-II	0.870	0.460	52.0	29.5	−40 +80	11,000	Use up to 1000 MHz
17A	0.1880" BC	PE	0.680	1: BC	PVC-IIA	0.870	0.460	52.0	29.5	−40 +80	11,000	Use RG218
17B	CANCELLED, REASSIGNED NEW NOMENCLATURE, RG177											
18	0.1880" BC	PE	0.680	1: BC	PVC-II w. Armor	0.945 max.	0.585	52.0	29.5	−40 +80	11,000	Use RG219
18A	0.1880" BC	PE	0.680	1: BC	PVC-IIA w. Armor	0.945 max.	0.585	52.0	29.5	−40 +80	11,000	Use RG219

Cables recommended for use per supplement 1A Mil-C-17D



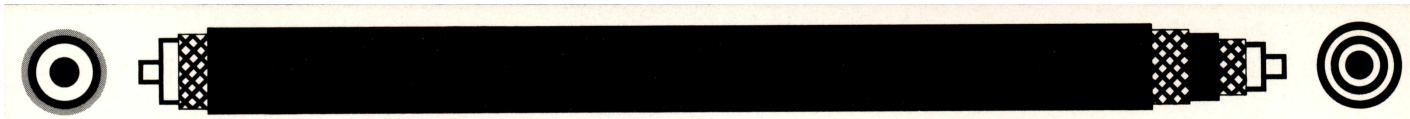
RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
19	0.2500″BC	PE	0.910	1: BC	PVC-II	1.120	0.740	52.0	29.5	−40 +80	14,000	Use RG220
19A	0.2500″ BC	PE	0.910	1: BC	PVC-IIA	1.120	0.740	52.0	29.5	−40 +80	14,000	Use RG220
20	0.2500″ BC	PE	0.910	1: BC	PVC-II w. Armor	1.195 max.	0.925	52.0	29.5	−40 +80	14,000	Use RG221
20A	0.2500″ BC	PE	0.910	1: BC	PVC-IIA w. Armor	1.195 max.	0.925	52.0	29.5	−40 +80	14,000	Use RG221
21	0.0508″ high resistance wire	PE	0.185	2: SC	PVC-II	0.332	0.087	53.0	29.0	−40 +80	2,700	Use RG222
21A	0.0508″ high resistance wire	PE	0.185	2: SC	PVC-IIA	0.332	0.087	53.0	29.0	−40 +80	2,700	Use RG222
22	2 cond. 0.0456″ 7/0.0152″ BC	PE	0.285	1: TC	PVC-I	0.405	0.105	95.0	16.0	−40 +80	1,000	Balanced line w twisted cond
22A	2 cond. 0.0456″ 7/0.0152″ BC	PE	0.285	2: TC	PVC-II	0.420	0.151	95.0	16.0	−40 +80	1,000	Balanced line w twisted cond
22B	2 cond. 0.0456″ 7/0.0152″ BC	PE	0.285	2: TC	PVC-IIA	0.420	0.151	95.0	16.0	−40 +80	1,000	Balanced line w twisted cond
23	2 c ıd. 0.0855″ 7/0.0285″ BC	PE, 2 cores	0.380	2: Individual inner Common outer BC	PVC-I	0650x 0.945	0.490	125.0	12.0	−40 +80	3,000	Use RG23A
23A	2 cond. 0.0855″ 7/0.0285″ BC	PE, 2 cores	0.380	2: Individual inner Common outer BC	PVC-IIA	0.650x 0.945	0.490	125.0	12.0	−40 +80	3,000	Dual coaxial balanced line
24	2 cond. 0.0855″ 7/0.0285″ BC	PE, 2 cores	0.380	2: Individual inner Common outer BC	PVC-I w. Armor	1.034x 0.735*	0.670	125.0	12.0	−40 +80	3,000	Use RG24A (*max.)
24A	2 cond. 0.0855″ 7/0.0285″ BC	PE, 2 cores	0.380	2: Individual inner Common outer BC	PVC-IIA w. Armor	1.034x 0.735*	0.670	125.0	12.0	−40 +80	3,000	Armored RG23A (*max.)
25A	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	2: TC	Rubber-IV	0.505	0.205	48.0	50.0	−40 +80	10,000	Times does not supply
26A	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	1: TC	Rubber-IV w. Armor	0.505 max.	0.189	48.0	50.0	−40 +80	10,000	Times does not supply
27A	0.0925″ 19/0.0185″ TC	Rubber-D	0.455	1: TC	Rubber-IV w. Armor	0.670 max.	0.304	48.0	50.0	−40 +80	15,000	Times does not supply
28B	0.0925″ 19/0.0185″ TC	Rubber-D	0.455	2:TC, GS	Rubber-IV	0.750	0.370	48.0	50.0	−40 +80	15,000	Times does not supply
29	0.0320″ BC	PE	0.116	1: TC	PE-III	0.184 max.	0.021	53.5	28.5	−55 +80	1,900	Use RG58
30	0.0477″ 7/0.0159″BC	PIB	0.185	1: BC	PVC-I	0.250	0.044	50.0	27.0	−40 +80	1,500	Use RG58
31	0.0855″ 7/0.0285″ BC	PIB	0.285	1: BC	PVC-I	0.405	0.106	51.0	31.0	−40 +80	2,000	Use RG213
32	0.0855″ 7/0.0285″ BC	PIB	0.285	1: BC	PVC-I w. Armor	0.465	0.141	51.0	29.0	−40 +80	2,000	Use RG215
33	0.1019″ BC	PE	0.370	None	Lead	0.470	0.390	51.0	30.0	−55 +80	6,000	Times does not supply
34	0.0855″ 7/0.0285″ BC	PE	0.455	1: BC	PVC-I	0.625	0.224	71.0	21.5	−40 +80	5,200	Use RG31B
34A	0.0747″ 7/0.0249″ BC	PE	0.460	1: BC	PVC-IIA	0.630	0.224	75.0	20.6	−40 +80	6,500	Use RG34B
34B	0.0747″ 7/0.0249″ BC	PE	0.460	1: BC	PVC-IIA	0.630	0.224	75.0	20.6	−40 +80	6,500	Use up to 1000 MHz
35	0.1144″ BC	PE	0.680	1: BC	PVC-II w. Armor	0.945 max.	0.525	71.0	21.5	−40 +80	10,000	Use RG35B
35A	0.1045″ BC	PE	0.680	1: BC	PVC-IIA w. Armor	0.945 max.	0.525	75.0	20.6	−40 +80	10,000	Use RG35B
35B	0.1045″ BC	PE	0.680	1: BC	PVC-IIA w. Armor	0.945 max.	0.525	75.0	20.6	−40 +80	10,000	Unarmored: see RG164
36	0.1620″ PC	PE	0.910	1: BC	PVC-I	1.180	0.805	69.0	22.0	−40 +80	13,000	Use up to 1000 MHz
37	0.0320″ TC	Rubber-C	0.140	1: TC	PE-III	0.210	0.040	52.5	38.0	−55 +80	, 750	Times does not supply

RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
38	0.0453″ TC	Rubber-C	0.196	2: TC	PE-III	0.312	0.110	52.5	38.0	−55 +80	1,000	Times does not supply
39	0.0253″ CCS	Rubber-C	0.196	2: TC	PE-III	0.312	0.100	72.5	28.6	−55 +80	1,000	Times does not supply
40	0.0253″ CCS	Rubber-C	0.196	2: TC	Rubber-IV	0.420	0.150	72.5	28.0	−40 +80	1,000	Times does not supply
41	0.0490″ 16/0.0100″ TC	Rubber-C	0.250	1: TC	Rubber-IV	0.425	0.150	67.5	27.6	−40 +80	3,000	Times does not supply
42	0.0285″ Resistance wire	PE	0.196	2: SC	PVC-II	0.342	0.050	78.0	20.0	−40 +80	2,700	Use RG222
43	2 cond. 0.0855″ 7/0.0285″ BC	Rubber-B	0.472	1: BC	PVC-I	0.617		95.0	17.6	−40 +80	1,500	Use RG57
44-47	STUD SUPPORTED RIGID LINES. See Mil-HDBK 216, Para. 5.5											Times does not supply
48-53	RECTANGULAR WAVEGUIDES COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.23											Times does not supply
54	0.0477″ 7/0.0159″ BC	PE	0.185	1: BC	PVC-I	0.275	0.045	58.0	27.0	−40 +80	2,500	Use RG54A
54A	0.0456″ 7/0.0152″ BC	PE	0.178	1: TC	PE-III	0.250 (max.)	0.041	58.0	26.5	−55 +80	3,000	Use up to 1000 MHz
55	0.0320″ BC	PE	0.116	2: TC	PE-III	0.206 max.	0.032	53.5	28.5	−55 +80	1,900	Use RG55B
55A	0.0350″ SC	PE	0.116	2: SC	PVC-IIA	0.216 max.	0.034	50.0	30.8	−40 +80	1,900	Use RG223
55B	0.0320″ SC	PE	0.116	2: TC	PE-IIIA	0.206 max.	0.033	53.5	28.5	−55 +80	1,900	Use up to 1000 MHz
56	0.0585″ 19/0.0117″ BC	Rubber-D	0.308	2: BC	PVC-I	0.535	0.243	48.0	50.0	−40 +80	8,000	Times does not supply
57	2 cond. 0.0855″ 7/0.0285″ BC	PE	0.472	1: TC	PVC-I	0.625	0.225	95.0	17.0	−40 +80	3,000	Balanced line Parallel
57A	2 cond. 0.0855″ 7/0.0285″ BC	PE	0.472	1: TC	PVC-IIA	0.625	0.225	95.0	17.0	−40 +80	3,000	Balanced line Parallel
58	0.0320″ BC	PE	0.116	1: TC	PVC-I	0.195	0.029	53.5	28.5	−40 +80	1,900	Use RG58B
58A	0.0355″ 19/0.0071″ TC	PE	0.116	1: TC	PVC-I	0.195	0.029	52.0	28.5	−40 +80	1,900	Use RG58C
58B	0.0320″ BC	PE	0.116	1: TC	PVC-IIA	0.195	0.029	53.5	28.5	−40 +80	1,900	Use up to 1000 MHz
58C	0.0355″ 19/0.0071″ TC	PE	0.116	1: TC	PVC-IIA	0.195	0.029	50.0	30.8	−40 +80	1,900	Extra flexible version RG58B
59	0.0253″ CCS	PE	0.146	1: BC	PVC-I	0.242	0.032	73.0	21.0	−40 +80	2,300	Use RG59B
59A	0.0253″ CCS	PE	0.146	1: BC	PVC-IIA	0.242	0.032	73.0	21.0	−40 +80	2,300	Use RG59B
59B	0.0230″ CCS	PE	0.146	1: BC	PVC-IIA	0.242	0.032	75.0	20.6	−40 +80	2,300	Use up to 1000 MHz
60	0.0508″ Str.C	Rubber-C	0.250	1: BC	Rubber-IV	0.425	0.150	50.0	39.0	-40 +80	1,100	Times does not supply
61	SPECIAL 500 OHM LINE											
62	0.0253″ CCS	Air-space PE	0.146	1: BC	PVC-I	0.242	0.038	93.0	13.5	−40 +80	750	Use RG62A
62A	0.0253″ CCS	Air-space PE	0.146	1: BC	PVC-IIA	0.242	0.038	93.0	13.5	−40 +80	750	Low capacitance
62B	0.0240″ 7/0.0080″ CCS	Air-space PE	0.146	1: BC	PVC-IIA	0.242	0.038	93.0	13.5	−40 +80	750	Extra flexible RG62A
63	0.0253″ CCS	Air-space PE	0.285	1: BC	PVC-I	0.405	0.083	125.0	10.0	−40 +80	1,000	Use RG63B
63A	0.0253″ BC	Air-space PE	0.285	1: BC	PVC-I	0.405	0.083	125.0	10.0	−40 +80	1,000	Use RG63B

Cables recommended for use per supplement 1A Mil-C-17D

RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
63B	0.0253″CCS	Air-space PE	0.285	1: BC	PVC-IIA	0.405	0.083	125.0	10.0	−40 +80	1,000	Low capacitance
64	0.0585″ 19/0.0117 TC	Rubber-D	0.308	2: TC	Rubber-IV	0.495	0.225	48.0	60.0	−40 +80	10,000	Times does not supply
64A	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	2: TC	Rubber-IV	0.475 max.	0.205	48.0	50.0	−40 +80	10,000	Times does not supply
65	0.0080″ Formex-F 0.1280″ dia. Helix	PE	0.285	1: BC	PVC-I	0.405	0.096	950.0	44.0	−40 +80	1,000	High impedance video delay line
65A	0.0080″ Formex-F 0.1280″ dia. Helix	PE	0.285	1: BC	PVC-IIA	0.405	0.096	950.0	44.0	−40 +80	1,000	High impedance video delay line
66-69	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-25. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
71	0.0253″ CCS	Air-space PE	0.146	2: TC	PVC-I	0.250 max.	0.046	93.0	13.5	−40 +80	750	Use RG71B
71A	0.0253″ CCS	Air-space PE	0.146	2: TC	PE-III	0.250 max.	0.046	93.0	13.5	−55 +80	750	Use RG71B
71B	0.0253″ CCS	Air-space PE	0.146	2: TC	PE-IIIA	0.250 max.	0.046	93.0	13.5	−55 +80	750	Low capacitance
72	0.0253″ CCS	Air-space PE	0.460	1: BC	PVC-I	0.630	0.169	150.0	7.8	−40 +80	750	Low capacitance
73	0.0320″ BC	PE	0.116	2: BC	Copper braid	0.175	0.031	25.0	61.8	−55 +80	1,000	Low impedance
74	0.1020″ BC	PE	0.370	2: BC	PVC-II w. Armor	0.615 max.	0.310	52.0	29.5	−40 +80	5,500	Use RG224
74A	0.1020″ BC	PE	0.370	2: BC	PVC-IIA w. Armor	0.615 max.	0.310	52.0	29.5	−40 +80	7,000	Use RG224
75	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.21.											Times does not supply
76	STUD SUPPORTED RIGID LINE. See Mil HDBK 216, Para. 5.5.											Times does not supply
77A	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	2: TC	PVC-IIA	0.450	0.195	48.0	50.0	−40 +80	8,000 Peak	Times does not supply
78A	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	1: TC	PVC-IIA	0.420	0.149	48 0	50.0	−40 +80	8,000 Peak	Times does not supply
79	0.0253″ CCS	Air-space PE	0.285	1: BC	PVC-I w. Armor	0.475 max.	0.136		10.0	−40 +80	1,000	Low capacitance
79A	0.0253″ CCS	Air-space PE	0.285	1: BC	PVC-I w. Armor	0.475 max.	0.130	125.0	10.0	−40 +80	1,000	Low capacitance
79B	0.0253″ CCS	Air-space PE	0.285	1: BC	PVC-IIA w. Armor	0.475 max.	0.136	125 0	10.0	−40 +80	1,000	Low capacitance
80	RIGID LINE. See Mil HDBK 216, Para. 5.2.											Times does not supply
81	0.0625″ BC	Magnesium Oxide G	0.321	None	Copper tube	0.325	0.172	50.0	37.0	> 250	3,000	Times does not supply
82	0.1250″ BC	Magnesium Oxide-G	0.650	None	Copper tube	0.750	0.698	50.0	36.0	> 250	5,000	Times does not supply
83	0.1020″ BC	PE	0.240	1: BC	PVC-I	0 405	0.120	35.0	44.0	−40 +80	2,000	Low impedance
84A	0.1045″ BC	PE	0.680	1: BC	PVC-IIA w. lead sheath	1.000	1.325	75.0	20.6	−40 +80	10,000	RG35B with
85A	0.1045″ BC	PE	0.680	1: BC	PVC-IIA w. lead Armor	1.565 max.	2.910	75.0	20.6	−40 +80	10,000	RG84A with special Armor
86	2 cond. 0.0855″ 7/0.0285″ BC	PE	0.300x 0.650	None	None	0.300x 0.650	0.100	200.0	7.8	−55 +80	10,000	Twin lead
87A	0.0960″ 7/0.0320″ SC	PTFE	0.280	2: SC	FG Braid-V	0.425	0.180	50.0	29.4	−55 +250	5,000	Use RG225
88	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	4: TC	PVC-I	0.515 max.	0.211	48.0	50.0	−40 +80	10,000	Times does not supply
88A	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	4: TC	PVC-IIA	0.515 max.	0.211	48.0	50.0	−40 +80	10,000	Times does not supply

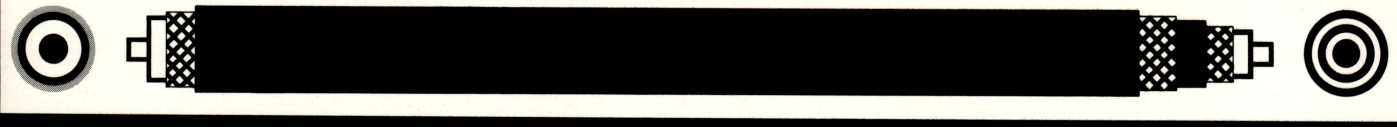
Cables recommended for use per supplement 1A Mil-C-17D



RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
88B	0.0585″ 19/0.0117″ TC	Rubber-E	0.288	4: TC	Rubber-IV	0.565	0.238	48.0	50.0	−40 +80	10,000	Times does not supply
89	0 0253″ CCS	Air-space PE	0.285	1: BC	PVC-I	0.632	0.195	125.0	10.0	−40 +80	1,000	Low capacitance
90	0.0603″ 7/0.0201″SC	PE	0.195	3: SC, SC, SC	PVC-IIA	0.425		50.0	30.8	−40 +80	3,000	Excellent shielding
91	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23											Times does not supply
92	RIGID COAXIAL LINE. See Mil HDBK 216, Para. 5.2.											Times does not supply
93	0.2000″ 19/0.0400″BC	Taped PTFE	0.573	1: BC	FG Braid-V	0.710	0.475	50.0	29.4	−55 +250	10,000	Use RG211A
94	0.1125″ 19/0.0225″ SC	Taped PTFE	0.292	2: BC	FG Braid-V	0.445	0.270	50.0	29.4	−55 +250	7,000	Use RG226
94A	0.1270″ 19/0.0254″ SC	Taped PTFE	0.370	2: BC	FG Braid-V	0.500	0.445	50.0	29.4	−55 +250	7,000	Use RG226
95-99	RECTANGULAR WAVEGUIDES COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23											Times does not supply
100	0.0735″ 19/0.0147″ BC	PE	0.146	1: BC	PVC-I	0.242	0.046	35.0	44.0	−40 +80	2,000	Use up to 1000 MHz
101	0.0641″ BC	Rubber		1: TC		0.588		75.0				Times does not supply
102	2 cond. 0.0808″ BC	Rubber		1: TC		1.088		140.0				Times does not supply
103-107	RECTANGULAR WAVEGUIDES COVERED BY MIL-W-85. See Mil HDBK 216, Para 6.17-6.23.											Times does not supply
108	2 cond. 0.0378″ 7/0.0126″ TC	PE	0.079 each	1: TC	PVC-II	0.235	0.032	78.0	19.6	−40 +80	1,000	Use RG108A
108A	2 cond. 0.0378″ 7/0.0126″ TC	PE	0.079 each	1: TC	PVC-IIA	0.235	0.032	78.0	19.6	−40 +80	1,000	Balanced line
109-110	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
111	2 cond. 0.0456″ 7/0.0152″ BC	PE	0.285	2: TC	PVC-II w. Armor	0.490 max.	0.146	95.0	16.0	−40 +80	1,000	Use RG111A
111A	2 cond. 0.0456″ 7/0.0152″ BC	PE	0.285	2: TC	PVC-IIA w. Armor	0.490 max.	0.146	95.0	16.0	−40 +80	1,000	Use RG22B w. Armor
112-113	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
114	0.0070″ CCS	Air-space PE	0.285	1: BC	PVC-I	0.405	0.087	185.0	6.5	−40 +80	1,000	Use RG114A
114A	0.0070″ CCS	Air-space PE	0.285	1: BC	PVC-IIA	0.405	0.087	185.0	6.5	−40 +80	1,000	Low capacitance
115	0.0840″ 7/0.0280″ SC	Taped PTFE	0.250	2: SC	FG Braid-V	0.375	0.148	50.0	29.4	−55 +250	5,000	Use RG115A
115A	0.0840″ 7/0.0280″ SC	Taped PTFE	0.255	2: SC	FG Braid-V	0.415	0.180	50.0	29.4	−55 +250	5,000	Extra flexible RG225
116	0.0960″ 7/0.0320″ SC	PTFE	0.280	2: SC	FG Braid-V w. Armor	0.475	0.198	50.0	29.4	−55 +250	5,000	Use RG227
117	0.1880″ BC	PTFE	0.620	1: BC	FG Braid V	0.730	0.641	50.0	29.4	−55 +250	7,000	Use RG211A
117A	0.1880″ BC	PTFE	0.620	1: BC	FG Braid-V	0.730	0.641	50.0	29.4	−55 +250	7,000	Use RG211A
118	0.1880″ BC	PTFE	0.620	1: BC	FG Braid-V w. Armor	0.780	0.682	50.0	29.4	−55 +250	7,000	Use RG228A
118A	0.1880″ BC	PTFE	0.620	1: BC	FG Braid-V w. Armor	0.780	0.682	50.0	29.4	−55 +250	7,000	Use RG228A
119	0.1020″ BC	PTFE	0.332	2: BC	FG Braid-V	0.465	0.225	50.0	29.4	−55 +250	6,000	Use up to 1000 MHz
120	0.1020″ BC	PTFE	0.332	2: BC	FG Braid-V w. Armor	0.525 max.	0.282	50.0	29.4	−55 +250	6,000	RG119 w Armor

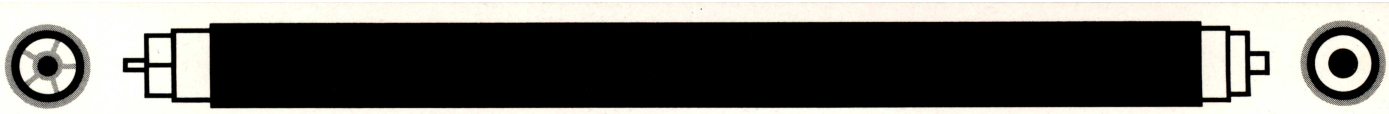
RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capacitance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
121	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 17-6.23.											Times does not supply
122	0.0300″ 7/0.0050″ TC	PE	0.096	1: TC	PVC-IIA	0.160	0.016	50.0	29.4	−40 +80	1,900	Use up to 1000 MHz
124	0.0253″ TCCS	Taped PTFE	0.135	1: TC	FG Braid-V	0.240	0.210	73.0	20.3	−55 +250	2,300	Use RG140
125	0.0159″ CCS	Air-space PE	0.460	1: BC	PVC-IIA	0.600	0.180	150.0	7.8	−40 +80	2,000	Low capacitance
126	0.0609″ 7/0.0203″HR	PTFE	0.185	1:HR	FG Braid-V	0.280	0.070	50.0	29.4	−55 +250	3,000	High loss cable
127	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
128	RIGID LINE. See Mil HDBK 216, Para. 5.2.											Times does not supply
129	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK, Para. 6.17-6.23.											Times does not supply
130	2 cond. 0.0855″ 7/0.0285″ BC	PE	0.472	1: TC	PVC-I	0.625	0.220	95.0	17.0	−40 +80	3,000	RG57 with twisted cond.
131	2 cond. 0.0855″ 7/0.0285″ BC	PE	0.472	1: TC	PVC-I w. Armor	0.710 max.	0.290	95.0	17.0	−40 +80	3,000	Armored RG130
132	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
133	0.0285″ BC	PE	0.285	1: BC	PVC-I	0.405	0.094	95.0	16.2	−40 +80	4,000	Use RG133A
133A	0.0253″ BC	PE	0.285	1: BC	PVC-IIA	0.405	0.094	95.0	16.2	−40 +80	4,000	95 ohm version RG8
134	RIGID LINE. See Mil HDBK 216, Para. 5.2.											Times does not supply
135 139	RECTANGULAR WAVEGUIDES COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
140	0.0250″ SCCS	PTFE	0.146	1: SC	FG Braid-V	0.233	0.056	75.0	19.5	−55 +250	2,300	See RG302 for FEP jacket
141	0.0359″ SCCS	PTFE	0.116	1: SC	FG Braid-V	0.190	0.036	50.0	29.4	−55 +250	1,900	Use RG141A
141A	0.0390″ SCCS	PTFE	0.116	1: SC	FG Braid-V	0.190	0.036	50.0	29.4	−55 +250	1,900	See RG303 for FEP jacket
142	0.0359″ SCCS	PTFE	0.116	2: SC	FG Braid-V	0.206 max.	0.047	50.0	29.4	−55 +250	1,900	Use RG142A
142A	0.0390″ SCCS	PTFE	0.116	2: SC	FG Braid-V	0.206 max.	0.047	50.0	29.4	−55 +250	1,900	See RG142B for FEP jacket
142B	0.0390″ SCCS	PTFE	0.116	2: SC	FEP	0.195	0.050	50.0	29.4	−55 +200	1,900	Stranded center cond. available
143	0.0570″ SCCS	PTFE	0.185	2: SC	FG Braid-V	0.325	0.114	50.0	29.4	−55 +250	3,000	Use RG143A
143A	0.0590″ SCCS	PTFE	0.185	2: SC	FG Braid-V	0.325	0.109	50.0	29.4	−55 +250	3,000	See RG304 for FEP jacket
144	0.0537″ 7/0.0179″ SCCS	PTFE	0.285	1: SC	FG Braid-V	0.410	0.137	75.0	19.5	−55 +250	5,000	High temp RG11A
145	2 cond. 0.0720″ BC	Air-space PE		Copper tube	Lead/tar			75.0	14.6			Times does not supply
146	0.0070″ CCS	Air-space PTFE	0.285	1: BC	FG Braid-V	0.375	0.108	190.0	6.0	−55 +200	1,000	Low capacitance
147	0.2500″ BC	PE	0.910	1: BC	PVC-I w. Armor	1.937		52.0	29.5	−40 +80	14,000	RG19U with Armor
148	0.0855″ 7/0.0285″ BC	PE	0.285	1: BC	PVC-I w. Armor	0.800		52.0	29.5	−40 +80	4,000	Times does not supply
149	0.048″ 7/0.0159″ TC	PE	0.285	1: BC	PVC-IIA	0.405	0.105	75.0	20.6	−40 +80	5,000	Use RG391
150	0.048″ 7/0.0159″ TC	PE	0.285	1: BC	PVC-IIA w. Armor	0.475 max.	0.112	75.0	20.6	−40 +80	5,000	Use RG392

RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
151 155	RIGID LINES COVERED BY MIL-L-3890. See Mil HDBK 216, Para. 5.4.											Times does not supply
156	0.0855″ 7/0.0285″ TC	PE and cond. PE	0.285	3: TC, GS, TC	PVC-IIA	0.540	0.211	50.0	32.0	−40 +80	10,000	Triaxial pulse cable
157	0.1005″ 19/0.0201″ TC	PE and cond. PE	0.455	3: TC, GS, TC	PVC-IIA	0.725	0.317	50.0	38.0	−40 +80	15,000	Triaxial pulse cable
158	0.1988″ 37/0.0284″ TC	PE and cond. PE	0.455	3: TC, GS, TC	PVC-IIA	0.725	0.380	25.0	78.0	−40 +80	15,000	Triaxial pulse cable
159	0.0320″ SC	Taped PTFE	0.116	1: SC	FG Braid-V	0.195	0.035	50.0	29.4	−55 +250	1,900	Use RG141
160	4 cond. 0.071″ 19/.0142″ 2TC, 2BC	PE	0.322	1: BC	PVC-I	1.055		125.0	12.0	−40 +80	3,000	4 cond. Balanced line
161	0.012″ 7/0.004″ S Cad. BR	PTFE	0.057	1: SC	Nylon	0.082	0.015	70.0	20.0	−60 +120	1,000	Miniature
162	RIGID LINE. See Mil HDBK 216, Para. 5.2.											Times does not supply
163	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
164	0.1045″ BC	PE	0.680	1: BC	PVC-IIA	0.870	0.490	75.0	20.6	−40 +80	10,000	RG35B without Armor
165	0.0960″ 7/0.0320″ SC	PTFE	0.285	1: SC	FG Braid-V	0.410	0.121	50.0	29.4	−55 +250	5,000	RG225 with one braid
166	0.096″ 7/0.0320″ SC	PTFE	0.285	1: SC	FG Braid-V w. Armor	0.460	0.144	50.0	29.4	−55 +250	5,000	RG165 with Armor
167 173	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23.											Times does not supply
174	0.0189″ 7/0.0063″ CCS	PE	0.060	1: TC	PVC-I	0.100	0.008	50.0	30.8	−40 +80	1,500	Miniature data transmission
175	RIGID LINE											Times does not supply
176	0.135″ Helix over Magnetic core	PE	0.285	1: Magnet Wire	PVC-I	0.405	0.120	2,240	49.0	−40 +80	5,000	Times does not supply
177	0.195″ BC	PE	0.680	2: SC	PVC-IIA	0.895	0.470	50.0	30.8	−40 +80	11,000	High frequency RG218
178	0.0120″ 7/0.0040″ SCCS	PTFE	0.036	1: SC	KEL-F	0.079 max.	0.0054	50.0	29.4	−40 +150	1,000	Use RG178B
178A	0.0120″ 7/0.0040″ SCCS	PTFE	0.034	1: SC	KEL-F	0.075 max.	0.005	50.0	29.4	−40 +150	1,000	Use RG178B
178B	0.0120″ 7/0.0040″ SCCS	PTFE	0.034	1: SC	FEP-IX	0.075 max.	0.0054	50.0	29.4	−55 +200	1,000	High strength conductors avail.
179	0.0120″ 7/0.0040″ SCCS	PTFE	0.057	1:SC	KEL-F	0.094 max.	0.010	70.0	20.4	−55 +150	1,200	Use RG179B
179A	0.0120″ 7/0.0040″ SCCS	PTFE	0.063	1: SC	KEL-F	0.105 max.	0.010	75.0	19.5	−40 +150	1,200	Use RG179B
179B	0.0120″ 7/0.0040″ SCCS	PTFE	0.063	1: SC	FEP-IX	0.100	0.010	75.0	19.5	−55 +200	1,200	High strength conductors avail.
180	0.0120″ 7/0.0040″ SCCS	PTFE	0.103	1: SC	KEL-F	0.141 max.	0.019	93.0	15.4	−40 +150	1,500	Use RG180B
180A	0.0120″ 7/0.0040″ SCCS	PTFE	0.102	1: SC	KEL-F	0.145 max.	0.019	95.0	15.4	−40 +150	1,500	Use RG180B
180B	0.0120″ 7/0.0040″ SCCS	PTFE	0.102	1: SC	FEP-IX	0.145 max.	0.019	95.0	15.4	−55 +200	1,500	High strength conductors avail.
181	2 cond., 0.0477″ 7/0.0159″ BC	PE	0.210	2: Individual inner Common Outer BC	PVC-IIA	0.640	0.198	125.0	12.0	−40 +80	3,500	Balanced line
182	2 of 19/0.0142″ BC 2 of 19/0.0066″ TC	4 cores, PE	2/.332 2/.146	Each core, 1: BC overall shield, 1: BC	PVC-IIA each PVC-I overall	1.055		125.0 Each	12.0 Each	−40 +80	2,300 3,000	Special 4 coax.
183	0.2510″ BC	PS Helix	0.632	Al tube	None	0.750	0.380	50.0	23.0	−40 +80	1,800	See Times AM-5034S
184	RECTANGULAR WAVEGUIDE											



RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
185	0.0031" Mag wire Helix on PE core	Air-space PE	0.188	1 :Magnet wire	PVC-IIA	0.282		2,000		−40 +80		Delay line cable
186	0.008" TFE Helix over core	Air-space PE	0.292	1: Magnet wire	PVC-IIA	0.405		1,000		−40 +80		Delay line cable
187	0.0120" 7/0.0040" SCCS	PTFE	.060	1: SC	PTFE	0.110 max.	0.010	75.0	19.5	−55 +250	1,200	Use RG179B
187A	0.0120" 7/0.0040" SCCS	PTFE	.060	1: SC	PTFE	0.110 max.	0.010	75.0	19.5	−55 +250	1,200	Use RG179B
188	.0201 7/.0067" SCCS	PTFE	0.060	1:SC	PTFE	0.110 max.	0.011	50.0	29.4	−55 +250	1,200	Use RG316
188A	.0201" 7/.0067" SCCS	PTFE	0.060	1:SC	PTFE	0.110 max.	0.011	50.0	29.4	−55 +250	1,200	Use RG316
189	0.2510" BC	PS Helix	0.632	2:SC	PE-IIIA	0.875	0.570	50.0	23.0	−55 +80	3,500	Use RG389
190	0.0585" 19/0.0117" TC	Rubber H, J	0.380	3:TC, GS, TC	Neoprene VIII	0.700	0.353	50.0	50.0	−55 +80	15,000	Times does not supply
191	0.485" TC Braid	Rubber H, J, H	1.065	3:TC, GS, GS	Neoprene VIII	1.460	1.469	25.0	85.0	−55 +80	15,000	Times does not supply
192	1.055" GS Tube TC Braid	Butyl Rubber		3:TC, GS, GS	Rubber	2.200		12.5	175.0	−55 +80	15,000 Peak	Times does not supply
193	1.055" GS Tube TC Braid	Silicone Rubber		3:TC, GS, GS	Rubber	2.100		12.5	159.0	−55 +80	30,000 Peak	Times does not supply
194	1.055" GS Tube TC Braid	Silicone Rubber		3:TC, GS, GS	Rubber w. Al. Armor	1.945		12.5	159.0	−55 +80	30,000 Peak	Times does not supply
195	0.0120" 7/0.004" SCCS	PTFE	0.102	1:SC	PTFE	0.155 max.	0.020	95.0	15.4	−55 +250	1,500	Use RG180B
195A	0.0120" 7/0.004" SCCS	PTFE	0.102	1:SC	PTFE	0.155 max.	0.020	95.0	15.4	−55 +250	1,500	Use RG180B
196	0.0120" 7/0.004" SCCS	PTFE	0.034	1:SC	PTFE	0.080 max.	0.006	50.0	29.4	−55 +250	1,000	Use RG178B
196A	0.0120" 7/0.004" SCCS	PTFE	0.034	1:SC	PTFE	0.080 max.	0.006	50.0	29.4	−55 +250	1,000	Use RG178B
197	0.300" BC	PS Helix	0.758	.875" OD Al Tube	None	0.875	0.500	50.0	22.0	−55 +80	2,400 Peak	Times equiv. AM-5078S
198	0.1140" BC	PS Helix	0.421	.500" OD Al. Tube	PE	0.600	0.155	70.0	16.0	−55 +80	1,300 Peak	Times equiv. AM-7512SJ
199	0.209" BC	PS Helix	0.758	.875" OD Al. Tube	PE	1.015	0.435	70.0	16.0	−55 +80	2,400 Peak	Times equiv. AM-7578SJ
200	OD-.405" ID-0.301" BC Tube	PS Helix	1.472	1.625" OD Al. Tube	PE	1.765	0.900	70.0	16.0	−55 +80	4,600 Peak	Times does not supply
201-208	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para 6.17-6.23											Times does not supply
209	0.189" 19/0.0378" SC	Air-space PTFE	0.500	2: SC	SR and Polyester-VI	0.750 max.	0.432	50.0	25.0	−55 +150	3,200	Low loss RG211A
210	0.0253" SCCS	Air-space PTFE	0.146	1: SC	FG Braid-V	0.242	0.040	93.0	13.5	−55 +250	750	High temp Low capacitance
211	0.1900" BC	PTFE	0.620	1: BC	FG Braid-V	0.730	0.641	50.0	29.4	−55 +250	7,000	High Temp High power
211A	0.1900" BC	PTFE	0.620	1: BC	FG Braid-V	0.730	0.641	50.0	29.4	−55 +250	7,000	High temp High power
212	0.0556" SC	PE	0.185	2: SC	PVC-IIA	0.332	0.083	50.0	29.4	−40 +80	3,000	Use to 10,000 MHz
213	0.0888" 7/0.0296" BC	PE	0.285	1: BC	PVC-IIA	0.405	0.099	50.0	30.8	−40 +80	5,000	Use up to 1000 MHz
214	0.0888" 7/0.0296" SC	PE	0.285	2 : SC	PVC-IIA	0.425	0.126	50.0	30.8	−40 +80	5,000	Use up to 10,000 MHz
215	0.0888" 7/0.0296 BC	PE	0.285	1: BC	PVC-IIA w. Armor	0.475 max.	0.121	50.0	30.8	−40 +80	5,000	Armored RG213
216	0.0477" 7/0.0159" BC	PE	0.285	2: BC	PVC-IIA	0.425	0.114	75.0	20.6	−40 +80	5,000	Use up to 1000 MHz

Cables recommended for use per supplement 1A Mil-C-17D



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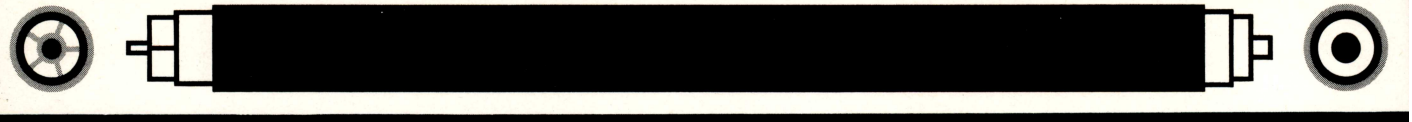
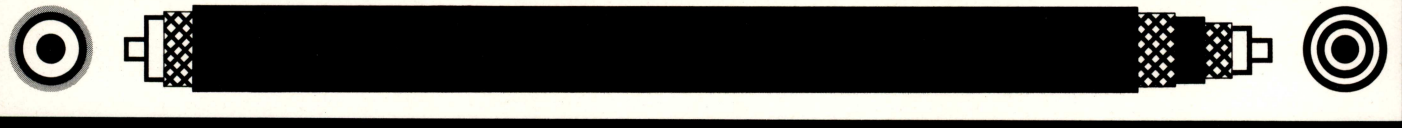
217	0.106″ BC	PE	0.370	2:BC	PVC-IIA	0.545	0.201	50.0	30.8	−40 +80	7,000	Use up to 1000 MHz
218	0.195″ BC	PE	0.680	1:BC	PVC-IIA	0.870	0.460	50.0	30.8	−40 +80	11,000	Use up to 1000 MHz
219	0.195″ BC	PE	0.680	1:BC	PVC-IIA w. Armor	0.945 max.	0.585	50.0	30.8	−40 +80	11,000	Armored RG218
220	0.260″ BC	PE	0.910	1:BC	PVC-IIA	1.120	0.740	50.0	30.8	−40 +80	14,000	Use up to 1000 MHz
221	0.260″ BC	PE	0.910	1:BC	PVC-IIA w. Armor	1.195 max.	0.925	50.0	30.8	−40 +80	14,000	Armored RG220
222	0.0556″ high Resistance wire	PE	0.185	2:SC	PVC-IIA	0.332	0.087	50.0	30.8	−40 +80	3,000	High attenuation
223	0.035″ SC	PE	0.116	2:SC	PVC-IIA	0.216 max.	0.034	50.0	30.8	−40 +80	1,900	Usable to 10,000 MHz
224	0.106″ BC	PE	0.370	2:BC	PVC-IIA w. Armor	0.615 max.	0.310	50.0	30.8	−40 +80	7,000	Armored RG217
225	0.0936″ 7/0.0312″ SC	PTFE	0.285	2:SC	FG Braid-V	0.430	0.180	50.0	29.4	−55 +250	5,000	See RG393 for FEP jacket
226	0.1270″ 19/0.0254″ SC	Taped PTFE	0.370	2:BC	FG Braid-V	0.500	0.445	50.0	29.4	−55 +250	7,000	See Times FEP-226
227	0.0936″ 7/0.0312″ SC	PTFE	0.285	2:SC	FG Braid-V w. Armor	0.490 max.	0.198	50.0	29.4	−55 +250	5,000	Armored RG225
228	0.1900″ BC	PTFE	0.620	1:BC	FG Braid-V w. Armor	0.795 max.	0.682	50.0	29.4	−55 +250	7,000	Armored RG211
228A	0.1900″ BC	PTFE	0.620	1:BC	FG Braid-V w. Armor	0.795 max.	0.682	50.0	29.4	−55 +250	7,000	Armored RG211A
229	0.0960″ 7/0.032″ SC	PTFE	0.285	1:SC	FG Braid-V w. Armor	0.480 max.	0.144	50.0	29.4	−55 +250	5,000	Use RG166
230	0.1988″ 37/0.0284″ TC	Rubber-D	0.455	3:TC, GS, GS	Rubber-IV	0.740 max.		25.0	100.0	−40 +80	15,000	Times does not supply
231	OD-0.162 ID-0.112″ BC	Foam PE	0.450	0.500″ OD Al. Tube	None	0.500	0.118	50.0	25.0	−55 +80	5,000 Peak	RG331 for jacketed cable
232	0.300″ BC	PE Helix	0.758	0.875″ OD Al. Tube	PE-IIIA	1.015	0.570	50.0	22.0	−55 +80	2,400 Peak	Times equiv. AM5078SJ
233	OD 0.591″ BC ID 0.481″	PS Helix	1.472	1.625″ OD Al. Tube	PE-IIIA	1.765	1.050	50.0	22.0	−55 +80	4,700 Peak	Times does not supply
234	OD-1.1570″ BC ID-1.015″	PS Helix	2.775	3.125″ OD Al. Tube	PE-IIIA	3.295	3.110	50.0	22.0	−55 +80	8,700 Peak	Times does not supply
235	0.0852″ 7/0.0284″ SC	Taped PTFE	0.255	2:SC	SIL/DAC VI	0.470 Max.	0.160	50.0	29.5	−55 +250	5,000	RG115A w. VI jacket
236	0.1620″ BC	PS Helix	0.421	0.500″ OD Al. Tube	None	0.500	0.165	50.0	24.0	−55 +80	1,300 Peak	Times equiv. AM5012S
237	0.1620″ BC	PS Helix	0.421	0.500″ Al. Tube	PE-IIIA	0.600	0.195	50.0	24.0	−55 +80	1,300 Peak	Times equiv. AM5012 SJ
238	CANCELLED, REPLACE WITH RG197/U											
239	CANCELLED, REPLACE WITH RG232/U											
240	OD 0.591″ BC ID 0.481″ BC	PS Helix	1.420	1.625 OD Al. Tube	None	1.625	0.930	50.0	22.0	−55 +80	4,700 Peak	Times does not supply
241	CANCELLED, REPLACE WITH RG233											
242	OD-1.157″ ID-1.0150″ BC	PS Helix	2.850	3.125″ OD Al. Tube	None	3.125	2,700	50.0	22.0	−55 +80	8,700 Peak	Times does not supply
243	CANCELLED, REPLACE WITH RG234											
244	0.102″ BC	PS Helix	0.421	0.500″ OD Al. Tube	None	0.500	0.118	75.0	15.5	−55 +80	1,200 Peak	Times equiv. AM7512S
245	0.102″ BC	PS Helix	0.421	0.500″ OD Al. Tube	PE-IIIA	0.600	0.148	75.0	15.5	−55 +80	1,200 Peak	Times equiv. AM7512SJ



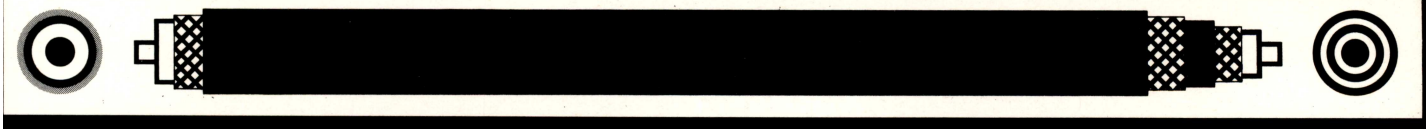
RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
246	0.1880″ BC	PS Helix	0.758	0.875″ OD Al. Tube	None	0.875	0.348	75.0	15.2	−55 +80	2200 eak	Times equiv. AM7578S
247	0.1880″ BC	PS Helix	0.758	0.875″ OD Al. Tube	PE-IIIA	1.015	0.418	75.0	15.2	−55 +80	2200 Peak	Times equiv. AM7578SJ
248	OD-0.3740″ BC ID-0.2740″	PS Helix	1.472	1.625″ OD Al. Tube	None	1.625	0.948	75.0	15.0	−55 +80	4300 Peak	Times does not supply
249	OD-0.374″ BC ID-0.2740″	PS Helix	1.472	1.625″ OD Al. Tube	PE-IIIA	1.765	1.068	75.0	15.0	−55 +80	4300 Peak	Times does not supply
250	0.732″ BC 0.632″	PS Helix	2.850	3.125″ OD Al. Tube	None	3.125	2.395	75.0	15.0	−55 +80	8,500 Peak	Times does not supply
251	0.732″ BC 0.632″	PS Helix	2.850	3.125″ OD Al. Tube	PE-IIIA	3.295	2.805	75.0	15.0	−55 +80	8,500 Peak	Times does not supply
252	0.1670″ BC	PE Tubes	0.456	0.530″ OD Al. Tube	None	0.530	0.175	50.0	24.0	−55 +80	1,000	Times equiv. AM5012S
253	0.167″ BC	PE Tubes	0.456	0.530″ OD Al. Tube	PE	0.655	0.225	50.0	24.0	−55 +80	1,000	Times equiv. AM5012SJ
254	0.3110″ BC	PE Tubes	0.833	0.953″ OD Al. Tube	PE	1.100	0.655	50.0	24.0	−55 +80	1,860	Times equiv. AM5078SJ
255	0.3110″ BC	PE Tubes	0.833	0.953″ OD Al. Tube	None	0.953	0.555	50.0	24.0	−55 +80	1,860.	Times equiv. AM5078S
256	OD-0.3110″ SC ID-0.2550″	PTFE Tubes	0.833	0.953″ OD Al. Tube	None	0.953	0.550	50.0	24.0	−55 +80	1,860	Times Equiv. AS5078T
257	OD-0.6060″ ID-0.04860″ BC	PS Tubes	1.622	1.786″ OD Al. Tube	None	1.786	1.200	50.0	24.0	−55 +80	3,640	Times does not supply
258	OD-0.606″ ID-0.4860″ BC Tube	PE Tubes	1.622	1.786″ OD Al. Tube	PE	1.926	1.380	50.0	24.0	−55 +80	3,640	Times does not supply
259	0.1150″ BC Tube	PTFE Tubes	0.318	0.390″ OD Al. Tube	None	0.390	0.100	50.0	24.0	−55 +80	697	Times equiv. AM5038S
260	0.1150″ BC Tube	PE Tubes	0.318	0.390″ OD Al. Tube	PE-IIIA	0.450	0.140	50.0	24.0	−55 +80	697	Times equiv. AM5038SJ
261-262												Cancelled
263	0.1720″ BC	Air-space PTFE	0.421	Al. Tube	None	0.500	0.170	50.0	21.5	−40 +250	1,300 Peak	See Times AS5012T
264	4 cond., 19/0.0142″ 2 TC, 2 BC	PE	0.176 e/core	2 TC, 2 BC BC over all	PVC-IIA	0.750	0.336	36.8	41.0	−40 +80	2,000	Use RG264C
264A	4 cond., 19/0.0142″ 2 TC, 2 BC	PE	0.176 e/core	2 TC, 2 BC, BC over all	PUR	0.750	0.327	36.8	41.0	−40 +80	2,000	Use RG264C
264C	4 cond., 0.068″ 2 BC, 2 TC	PE	0.186 e/core	2 TC, 2 BC BC overall	PUR	0.765	0.327	40.0	38.4	−40 +80	2,000	Watertight 4 coax.
265	0.6770″ BC Tube	PE Helix	1.578	Copper clad Mild Steel Tube	PE-IIIA	2.070		50.0	22.3	−40 +80	145KW Peak	Times does not supply
266	0.0113″ cond. over 0.144″ Mag. core	PE	0.285	75 spiral wound cond. 68 BC & 7 are insulated	PVC-I	0.400	0.120	1530.0	53.0	−40 +80	5,000 DC	Delay line cable 50 ns/ft
267	0.3550″ BC Tube	PS Helix		Copper clad Mild Steel Corrugated Tubing	PE-IIIA	1.190		50.0	22.2	−40 +80	44 KW Peak	Times does not supply
268	0.1610″ BC	PE Helix	0.350	Corrugated BC Tube	None	0.498	0.234	50.0	23.0	−55 +80	10KW Peak	Times equiv. AM5012S
269	ID-0.2870″ OD-0.3580″ BC Tube	PE Helix	0.795	Corrugated BC Tube	None	1.005	0.430	50.0	22.2	−55 +80	44KW Peak	Times equiv. AM5078S
269A	ID-0.2870″ OD-0.3580″ BC Tube	PE Helix	0.795	Corrugated BC Tube	None	1.005	0.430	50.0	22.2	−55 +80	44KW Peak	Times equiv. AM5078S
270	ID-0.5880″ OD-0.6880″ BC Tube	PE Helix	1.578	Corrugated BC Tube	None	1.830	0.875	50.0	22.3	−55 +80	145KW Peak	Times does not supply
270A	ID-0.5880″ OD-0.6770″ BC Tube	PE Helix	1.578	Corrugated BC Tube	None	1.830	0.875	50.0	22.3	−55 +80	145KW Peak	Times does not supply
271-278	RECTANGULAR WAVEGUIDES COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23											Times does not supply
279	0.0250″ 19/0.0050″ SCCS	Air-space PTFE	0.110	1: SC	FG Braid-V	0.145	0.125	75.0	19.5	−55 +250	1,000	Extra flexible high temp. cable

RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
280	0.1144″ BC	Taped PTFE	0.327	2: SC	FEP-IX	0.468	0.200	50.0	25.4	−55 +200	3,000	Low loss High frequency
281	0.1890″ 19/0.0378″ SC	Taped PTFE	0.500	2: SC	Sil/DAC-VI	0.750 max.	0.400	50.0	25.4	−55 +150	4,000	Low loss High power
282	0.0253″ SC	Irradiated PE	0.099	2: SC	FEP	0.200	0.031	54.5	28.2	−40 +150	4,500	Times does not supply
283	0.0585″ 19/0.0117″ SC	Rubber-D	0.288	2 : SC	Sil.	0.475	0.145	46.0	50.0	−55 +150	8,000	Times does not supply
284A	0.220″ BC	PE Helix	0.795	Corrugated BC Tube	None	1.005	0.410	75.0	15.0	−55 +80	29KW Peak	Times does not supply
285A	0.1140″ BC	PTFE Helix	0.795	Corrugated BC Tube	None	1.005	0.430	100.0	13.0	−55 +200	22KW Peak	Times does not supply
286	OD-0.4300″ ID-0.3600″ BC Tube	PE Helix	1.570	Corrugated BC Tube	None	1.830	0.720	75.0	15.1	−55 +80	100KW Peak	Times does not supply
287	0.1970″ BC	PE Helix	1.570	Corrugated BC Tube	None	1.830	0.750	100.0	13.5	−55 +80	73KW Peak	Times does not supply
288	OD-1.3330″ ID-1.2221″ BC Tube	PE Helix	2.960	3.750″ CCS	None	3.750	3.000	50.0	21.6	−40 +80	440KW Peak	Times does not supply
289	OD-0.8200″ ID-0.7400″ CCS Tube	PE Helix	2.960	3.750″ CCS	None	3.750	3.000	75.0	14.7	−40 +80	290KW Peak	Times does not supply
290-291	RECTANGULAR WAVEGUIDE COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23											Times does not supply
292	0.4300″ BC Tube	PE Helix	1.570	1.8300″ Corr. BC Tube	PE and flooding comp	2.000	1.040	75.0	15.1	−55 +80	100KW Peak	Times does not supply
293	0.106″ BC	PE	0.375	1: SC	PE-IIIA	0.545	0.160	50.0	30.8	−55 +80	7,000	Use RG293A
293A	0.1060″ BC	PE	0.370	1:SC	PE-IIIA	0.545	0.160	50.0	30.8	−55 +80	7,000	Watertight RG217
294	2 cond., 0.0808″ 1 BC, 1 TC	PE	0.472	1: TC	PE-IIIA	0.630	0.205	95.0	16.3	−55 +80	3,000	Use RG294A
294A	2 cond., 0.0808″ 1 BC, 1 TC	PE	0.472	1:SC	PE-IIIA	0.630	0.205	95.0	16.3	−55 +80	3,000	Watertight RG130
295	0.1950″ BC	PE	0.680	1: SC	PE-IIIA	0.895	0.420	50.0	30.8	−55 +80	11,000	Watertight RG218
296	0.2352″ 37/0.0336″ SC	Silicone Rubber	.906	1:SC	Neoprene	1.190		50.0	36.4	−55 +80	13,800	Times does not supply
297	OD0.3550″ ID-0.2870″ BC Tube	PTFE Helix	0.795	Corr. BC Tube	None	1.005		50.0	21.4	−55 +200	44 KW Peak	Times equiv. AS5078T
298	0.6030″ 7/0.0201″ CCS	PE	0.115	None	Foam PE	0.650	0.090			−55 +80		Buoyant Per Mil-C-22667
299-300	RECTANGULAR WAVEGUIDE											Times does not supply
301	0.0609″ 7/0.0203″ HR	PTFE	0.185	1: HR	FEP-IX	0.245	0.056	50.0	29.4	−55 +200	3,000	FEP Jacketed RG126
302	0.0250″ SCCS	PTFE	0.146	1: SC	FEP-IX	0.206 max.	0.031	75.0	19.5	−55 +200	2,300	FEP Jacketed RG140
303	0.0390″ SCCS	PTFE	0.116	1: SC	FEP-IX	0.170	0.030	50.0	29.4	−55 +200	1,900	FEP Jacketed RG141A
304	0.0590″ SCCS	PTFE	0.185	2: SC	FEP-IX	0.280	0.088	50.0	29.4	−55 +200	3,000	FEP Jacketed RG143A
305	OD-0.4300″ ID-0.3600″ BC Tube	FEP	1.570	1.830″ BC Tube	PE-IIIA	1.990		75.0	14.4	−55 +80	2,720	Times does not supply
306A	0.1730 ″BC	Foam PE	0.801	0.8750″ Al. Tube	PE-IIIA	1.015	0.545	75.0	16.5	−55 +80	5,700	Per Mil-C-23806
307	0.0290″ 19/0.0058 ″SC	Foam PE	0.146	2: SC PUR Interlayer	PE-IIIA	0.270	0.070	75.0	16.7	−55 +80	1,000	Triax Use to 100 MHz
307A	0.0290″ 19/0.0058″ SC	Foam PE	0.146	2: SC PUR Interlayer	PE-IIIA	0.270	0.070	75.0	16.7	−55 +80	1,000	Triax Use to 100 MHz
308-315	BEAD SUPPORTED RIGID LINES. See Mil- R-9671.											Times does not supply

Cables recommended for use per supplement 1A Mil-C-17D



RG/U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs/ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Comments
316	0.0201″ 7/0.0067″ SCCS	PTFE	0.060	1:SC	FEP-IX	0.102	0.012	50.0	29.4	−55 +200	1,200	FEP jacketed RG188A
317	2 cond. 0.0870″ 7/0.0290″ BC	FEP	0.446	1:TC	Neoprene	0.710		95.0	15.4	−55 +80	10,000	Water blocked
318	OD-0.3580″ BC Tube ID-0.2870″	PE Helix	0.795	1.005″ Corr. BC Tube	PE-IIIA	1.125	0.530	50.0	22.0	−55 +80	44KW Peak	Times equiv. AM5078SJ
319	OD-0.6880″ BC Tube ID-0.5880″	PE Helix	1.570	1.830″ Corr. BC Tube	PE-IIIA	2.000	1.040	50.0	22.0	−55 +80	145KW Peak	Times does not supply
320	WAVEGUIDE											Times does not supply
321	OD-1.1400″ corr. BC Tube	PE Helix		2.850″ corr. BC Tube	None	2.850	1.210	50.0	21.7	−55 +80	320KW Peak	Times does not supply
322	OD-1.1400″ corr. BC Tube	PE Helix		2.850″ corr. BC Tube	PE & flood comp	3.040	1.780	50.0	21.7	−55 +80	320KW Peak	Times does not supply
323	0.312″ BC Tube	Foam PE		0.980″ corr. BC Tube	PE & flood comp	1.060	0.420	50.0	25.6	−55 +80	1,480	Times equiv. AM5078PJ
324	0.312″ BC Tube	Foam PE		0.980″ corr. BC Tube	None	0.980	0.320	50.0	25.6	−55 +80	1,480	Times equiv. AM5078P
325	0.1000″ 19/0.0200″ SC Al.	PE Spline	0.260	2: SC Strip Braids	PUR	0.350	0.10	50.0	26.3	−55 +80	750	Low loss
326	0.2000″ 19/0.0400″ SC Al.	PE Spline	0.550	2: SC Strip Braids	PUR	0.697	0.24	50.0	26.3	−55 +80	1,700	Low loss
327	0.3200″ 19″0.0640″ SC Al.	PE Spline	0.840	2: SC Strip Braids	PUR	1.010	0.55	50.0	26.3	−55 +80	2,500	Low loss
328	0.4850″ TC Braid	Rubber H, J, H	1.065	3: TC, GS, TC	Neoprene	1.460	1.469	25.0	85.0	−55 +80	20,000	Times does not supply
329	0.0585″ 19/0.0117″ TC	Rubber H, J, H	0.380	3 : TC, GS, TC	Neoprene	0.700	0.353	50.0	50.0	−55 +80	15,000	Times does not supply
330	SC	Foam PE		1 : SC		0.242		50.0	25.0			
331	0.1620″ BC	Foam PE	0.450	0.500″ Al. Tube :	PE-IIIA	0.600	0.187	50.0	25.0	−55 +80	2,500	Jacketed 231 Solid conductor
332	0.2800″ BC	Foam PE	0.801	0.8750″ Al. Tube	None	0.875	0.466	50.0	25.0	−55 +80	4,500	Per Mil-C-23806
333	0.2880″ BC	Foam PE	0.801	0.8750″ Al. Tube	PE-IIIA	1.015	0.548	50.0	25.0	−55 +80	4,500	Jacketed RG332
334	0.0980″ BC	Foam PE	0.450	0.500″ Al. Tube	None	0.500	0.109	75.0	17.0	−55 +80	2,500	Per Mil-C-23806
335	0.0980″ BC	Foam PE	0.450	0.500″ Al. Tube	PE-IIIA	0.625	0.143	75.0	17.0	−55 +80	2,500	Jacketed RG334
336	0.1730″ BC	Foam PE	0.801	0.8750″ Al. Tube	None	0.875	0.315	75.0	17.0	−55 +80	4,000	Per Mil-C-23806
337-359	RECTANGULAR WAVEGUIDES COVERED BY MIL-W-85. See Mil HDBK 216, Para. 6.17-6.23											Times does not supply
360	0.2430″ BC	Foam PE	0.676	0.7500″ Al. Tube	PE-IIIA	0.825	0.397	50.0	25.0	−55 +80	4,000	Per Mil-C-23806
361-365	DATA NOT AVAILABLE											
366	0.1600″ BC	Foam PE		0.540″ Corr. BC Tube	PE-IIIA	0.620		50.0	26.6	−55 +80	4,000	Times equiv. AM5012PJ
367	Corr. BC Tube	PE Helix		5.000″ Corr. BC Tube	PE-IIIA	5.2000	4.590	50.0	21.7	−55 +80	830KW Peak	Times does not supply
369	0.1170″ BC	PE Tubes	0.318	0.390″ Al. Tube	PE-IIIA	0.470	0.140	50.0	24.0	−55 +80	700	Times equiv AS5038PJ
370	0.1170″ BC	PE Tubes	0.318	0.390″ Al. Tube	None	0.390	0.100	50.0	24.0	−40 +80	700	Times equiv. AS5038P
372-373	EXPERIMENTAL BUOYANT COAXIAL TRANSMISSION LINE											
374	0.0285″ BC	PE	0.160	None	Foam PE	0.650	0.097			−55 +80		Buoyant antenna



RG U Type	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Type of Shielding Braids	Jacket Material	O.D. (Inch)	Weight (lbs ft)	Nominal Imped. (ohms)	Nominal Capac-itance (pf"ft)	Max. Oper. Temp. Range (C)	Max. Oper. Voltage (Volts RMS)	Comments
375	RECTANGULAR WAVEGUIDE											
376	0.3120" BC Tube	Foam PE		Corr. Al. Tube	PE-IIIA	1.060	0.390	50.0	26.0	−55 +80	6,000	Times equiv. AM5078PJ
377	0.1650" SC Tube	PTFE Tubes		0.5300" Al. Tube	None	0.530	0.170	50.0	24.0	−55 +250	1,000	Times equiv. AS5012T
378	0.7130" BC Tube	PE Helix		1.830" Corr. Al. Tube	PE-IIIA	2.000	0.620	50.0	22.1	−55 +80	145KW Peak	Times does not supply
379-381	ELLIPTICAL WAVEGUIDES											
382	RIGID LINE			Al. Tube		1.625		50.0				
383	2 cond. 0.0403" 2,000 lb. Break	PE		None	Foam PE	0.650		100.0		−55 +80		Exper buoyant Twisted pair
384	0.0508" BC	PE		1: Flat BC Braid Waterproofed	Foam PE	0.650		50.0	30.8	−55 +80		Buoy. Ant. 600 psig.
385	0.1530" SC	Semi-solid PTFE	0.425	0.500" Corr. Al.	Optional	0.660	0.178	50.0	25.0	−55 +250	1,500	Low loss No press. req.
386	0.0508" CCS	PE		None Non-hosing	Foam PE	0.650				−55 +80		Buoy Ant 400 lb. break
387	DATA NOT AVAILABLE											
388	SC	PE		0.444" max. SC	PE-IIIA	0.545		50.0	30.8	−55 +80		Watertight See RG14A
389	0.2500" BC Al.	PE Spline	0.635	2: SC	PE-IIIA	0.875	0.366	50.0	22.8	−55 +80	2,000	Low Loss Replaces RG189
390	DATA NOT AVAILABLE											
391	0.048" 7/0.0159" TC	Cond. PE and PE	0.285	1: TC	PVC-IIA	0.405	0.092	72.0		−55 +80	5,000	Low noise cable
392	0.048" 7/0.0159" TC	Cond. PE and PE	0.285	1: TC	PVC-IIA w. Armor	0.475	0.114	72.0		−55 +80	5,000	Armored RG391
393	0.0936" 7/0.0312" SC	PTFE	0.285	2: SC	FEP-IX	0.390	0.165	50.0	29.4	−55 +200	5,000	Moisture proof RG225
397	0.096" 7/0.032" SC	Air-space PTFE	0.270	2:SC	FEP-IX	0.360 Max.	0.125	50.0	28.0	−55 +200	2,000	Low loss RG393
400	0.0385" 19/0.0077" SPC	PTFE	0.116	2:SC	FEP-IX	0.195	0.050	50.0	29.3	− 55 + 200	1,900	
401	0.0645" SPC	PTFE	0.215	.250" OD Copper Tube	None	0.250	0.081	50.0	29.3	− 55 + 200	3,000	**Semiflex** RG304
402	0.0360" SCCS	PTFE	0.119	.141" OD Copper Tube	None	0.141	0.032	50.0	29.3	− 55 + 200	2,500	**Semiflex** RG142B
403	0.012" SCCS 7/0.004"	PTFE	0.034	2:SC FEP Interlayer	FEP-IX	0.116	0.0075	50.0	29.3	− 55 + 200	2,500	Triaxial RG178B
404	0.012" SCCS 7/0.004"	PTFE and Cond. PTFE	0.034	1:SC	FEP-IX	0.075 Max.	0.0054	50.0	31.5 Max.	− 55 + 200	2,000	Low noise RG178B
174A	0.0189" 7/0.0063" CCS	PE	0.060	1: TC	PVC-IIA	0.100	0.008	50.0	30.8	−40 +80	1,500	Miniature data transmission

ABBREVIATIONS

DIELECTRIC

PE . . . . . Solid Polyethylene
PTFE . . . . . Solid Polytetrafluoroethylene
PIB . . . . . Polyisobulylene, Type B, per MIL-C-17
Rubber . . . . . per MIL-C-17D
Sil . . . . . Silicone Rubber
PS . . . . . Polystyrene

CONDUCTORS & BRAID MATERIALS

AL . . . . . Aluminum
SCCAl . . . . . Silver covered copper covered aluminum
BC . . . . . Bare copper
SC . . . . . Silver covered copper
CCS . . . . . Copper covered steel
TC . . . . . Tinned copper
SCCS . . . . . Silver covered copper covered steel
SCCad Br . . . . Silver covered cadmium bronze
GS . . . . . Galvanized steel
TCCS . . . . . Tinned copper covered steel
SSC . . . . . Silver covered strip
HR . . . . . High resistance wire
SA . . . . . Silver covered Alloy

JACKET MATERIAL

PVC-I . . . . . Black Polyvinylchloride, contaminating, Type I, per MIL-C-17D
PVC-II . . . . . Grey polyvinylchloride, non-contaminating, Type II, per MIL-C-17D
PVC-IIA . . . . . Black polyvinylchloride, non-contaminating, Type IIA, per MIL-C-17D
PE-III . . . . . Clear polyethylene
PE-IIIA . . . . . High molecular weight black polyethylene, Type IIIA, per MIL-C-17D
FG Braid V . . . . . Fiberglass, impregnated, Type V per MIL-C-17D
FEP-IX . . . . . Fluorinated ethylene propylene, Type IX per MIL-C-17D
PUR . . . . . Polyurethane, Black specific compounds
SIL/DAC-VI . . . . . Dacron braid over silicon rubber, Type VI per MIL-C-17D
Rubber . . . . . Per MIL-C-17D

Note: The color banded RG cables are those recommended in the latest Supplement, MIL-C-17D.

Note: The previous data is for general reference information only. For exact purchase or design specifications, contact the manufacturer.

Standard Cables

Index

In addition to the RG cables listed previously, Times manufactures other Standard types of cables as identified below and in the sections that follow.

Name	Description	Page
Alumifoam	Tubular Aluminum Jacket & Foam PE Dielectric	28-29
Alumisol	Tubular Aluminum Jacket, PE or TFE Dielectric	32
Alumispline P	Tubular Aluminum Jacket & Airspace PE Dielectric	26
Alumispline T	Tubular Aluminum Jacket & Air-space TFE Dielectric	27
Balanced Lines	Balanced Lines	38
Coppersol	Tubular Copper Jacket & TFE Dielectric	33
Corrugated Alumifoam T	Corrugated Aluminum Jacket & Foam TFE Dielectric	30
FEP Jackets	FEP Jackets	36
Flexifoam	Flexible, Low Loss, Foam	37
Flexispline	Flexible, Low Loss, Air-Space	31
Imperveon	Moistureproof	40
Low Capacitance	Low Capacitance	36
Hi-Strength	Hi-Strength Miniature Cables	36
Phase Compensated	Phase Compensated Alumifoam	34
Pressuretight	Pressuretight—Nonhosing	41
Stripflex	Flexible, Low Loss, Flat Strip Braid	35
Triaxial	Flexible, High Shielding Efficiency	39

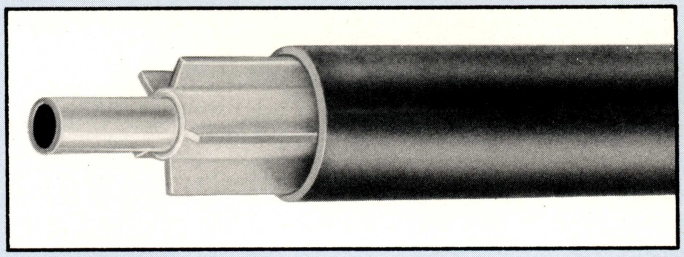
Modified Standards

RG and Standard cables are normally stocked or available for delivery within a short time period. In small quantities, we recommend the use of RG or Standard Cables for least cost and fastest delivery. In larger quantities, specific designs adapted to the application will normally achieve lowest cost or optimum electrical and mechanical characteristics. Design modifications need not increase cost. Don't hesitate to call our Engineering Services Section for design assistance. They will be glad to draw up a design sheet for your review.

Completed Assemblies

All of the RG and Standard Cables described in this catalog are available in bulk quantities. They may also be procured in terminated lengths and where required to precise VSWR, insertion loss, electrical length or pulse requirements.

Alumispline

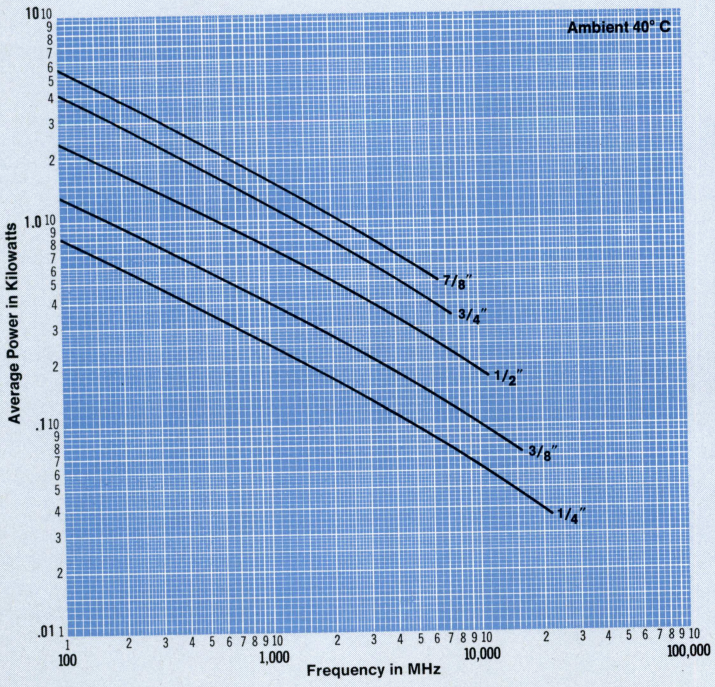


50 Ohm Low Temp

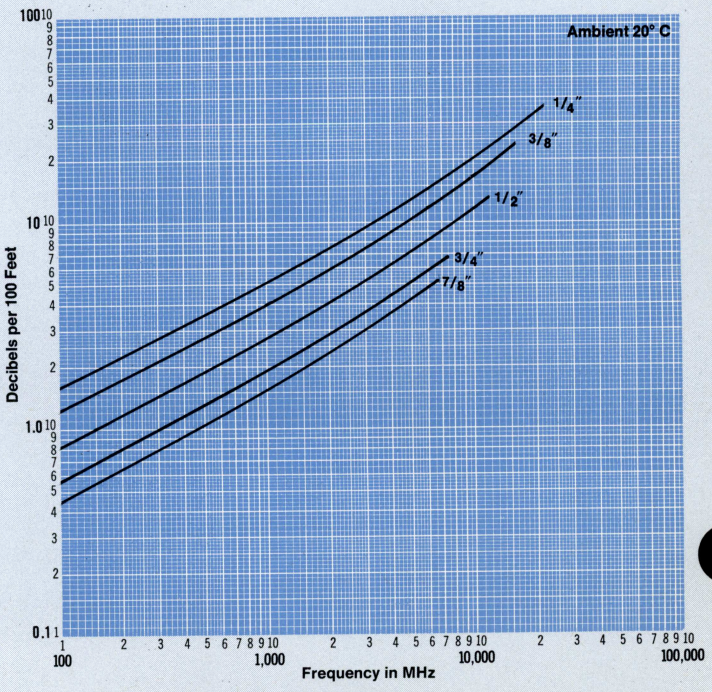
Size	Pt. No.	Inner Conductor BC ID	Inner Conductor BC OD	Dielectric Material	Outer Cond. Al. ID	Outer Cond. Al. OD	Jacket PE-OD	Max. Peak Oper. K.V.	Min. Recom. Bend Radius	Max. Pulling Force (lbs)	Nominal Capac-itance (pf/ft)	Vel of Prop. (%)	Cut-off Freq. (GHz)	Lengths (ft)	Weight (lbs/M ft)	Reel Weight (2M ft)
1/4	AS-5014P	.060	.0805	PE	.213	.250	None	0.8	2.5″	75	24	85.0	22.0	20	28	21
1/4	AS-5014PJ	.060	.0805	PE	.213	.250	.290	0.8	2.5″	75	24	85.0	22.0	20	40	21
3/8	AS-5038P	Sol.	.112	PE	.296	.375	None	1.1	4″	225	24	85.8	15.9	2,000	97	32
3/8	AS-5038PJ	Sol.	.112	PE	.296	.375	.435	1.1	4″	225	24	85.8	15.9	2,000	113	32
1/2	AS-5012P	Sol.	.161	PE	.421	.500	None	1.5	5″	300	24	86.8	11.2	2,000	162	32
1/2	AS-5012PJ	Sol.	.161	PE	.421	.500	.600	1.5	5″	300	24	86.8	11.2	2,000	196	32
3/4	AS-5034P	Sol.	.251	PE	.632	.750	None	2.2	8″	650	23	90.3	7.6	2,000	369	266
3/4	AS-5034PJ	Sol.	.251	PE	.632	.750	.850	2.2	8″	650	23	90.3	7.6	2,000	419	266
7/8	AS-5078P	Sol.	.300	PE	.758	.875	None	2.6	9″	800	22	90.0	6.3	2,000	486	266
7/8	AS-5078PJ	Sol.	.300	PE	.758	.875	1.015	2.6	9″	800	22	90.0	6.3	2,000	568	266

Tubular or solid conductors are available in all constructions. Can be manufactured in longer lengths. Alumispline P cables are available to meet requirements of Class N, Type I per Mil-C-22931.

Maximum Power Handling Capability



Nominal Loss Characteristics



Semiflexible Air-Space Dielectric

Alumispline is a longitudinally (rather than helically) supported air dielectric cable designed for broadband use with the lowest possible losses. The spline dielectric consists of thin dielectric layers of TFE or polyethylene completely encasing the center conductor and protecting it from corrosion. The thin dielectric layer is supported by 5 integrally extruded longitudinal dielectric columns. The spline construction gives uniform support to the center conductor and minimizes its movement during bending. When used in corrosive atmospheres, direct burial, or for submarine applications, a jacket of Times Xelon polyethylene or FEP is recommended. Alumispline is easily cut and trimmed with rotary cutting tools, without necessity of heat sealing.

Characteristics

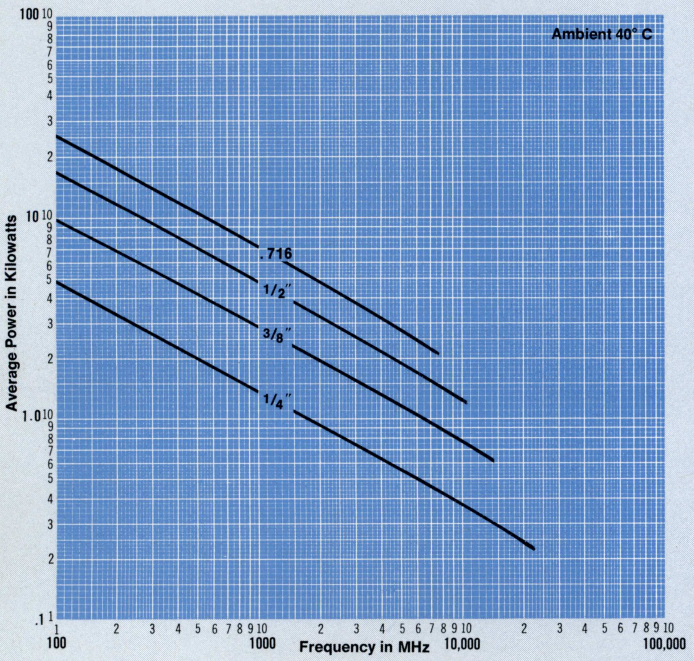
VSWR: extruded spline permits precise dimensional control and achieves low VSWR. Longitudinal construction does not exhibit VSWR peaks, or overshoot with fast rise time (0.1 ns) pulses normally found in helical supports. **Attenuation:** as much as 50% less loss than flexible cables. **Attenuation Uniformity:** very little variation from nominal with frequency. **Phase Characteristics:** less than 20 ppm/°C variation with temperature, and negligible group delay error. **Radiation:** below measurable limits. **Pressurization:** may be operated without. Pressurization recommended for lowest losses, maximum peak operating voltage, and maximum life expectancy. Seamless outer conductor assures constant pressure. **Size and Weight:** smallest and lightest weight cables available. TFE constructions especially suitable for aircraft use to 18 GHz.

50 Ohm High Temp

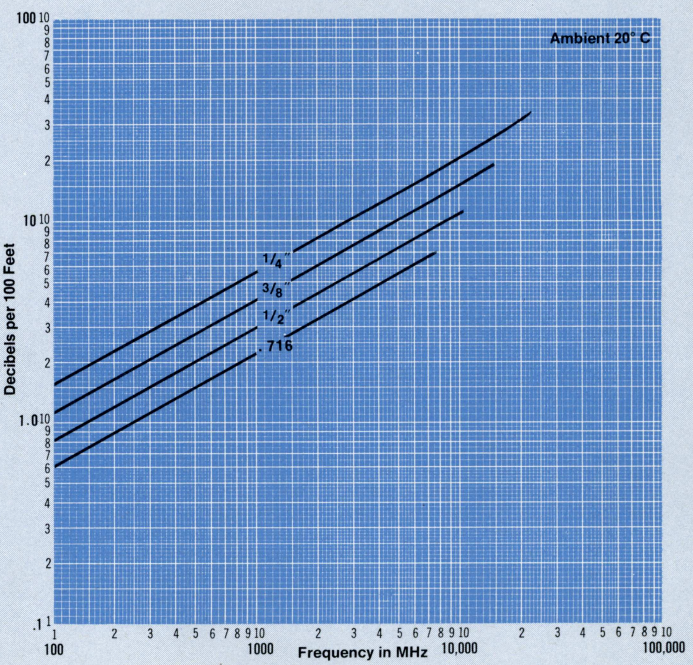
Size	Pt. No.	Inner Conductor SC ID	Inner Conductor SC OD	Dielectric Material	Outer Cond. Al. ID	Outer Cond. Al. OD	Jacket OD	Max. Peak Oper. K.V.	Min. Recom. Bend Radius	Max. Pulling Force (lbs)	Nominal Capacitance (pf/ft)	Vel of Prop. (%)	Cut-off Freq. (GHz)	Lengths (ft)	Weight (lbs/ft)
1/4	AS-5014T	.060	.0805	PTFE	.210	.250	None	0.8	2.5″	75	24	85	22.0	20	.037
3/8	AS-5038T	.086	.126	PTFE	.325	.375	None	1.1	4″	100	24	86	14.5	20	.075
1/2	AS-5012T	.134	.174	PTFE	.450	.500	None	1.5	5″	200	23	87	10.5	20	.136
.716	AS-50716T	.208	.248	PTFE	.642	.716	None	2.2	7″	425	23	88	7.6	20	.216

Tubular or solid conductors are available in all constructions. Can be manufactured in longer lengths.
Alumispline T cables are available to meet requirements of Class H, Type I per Mil-C-22931.

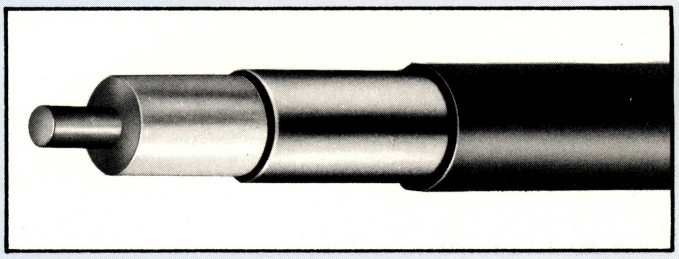
Maximum Power Handling Capability



Nominal Loss Characteristics



Alumifoam



50 Ohm

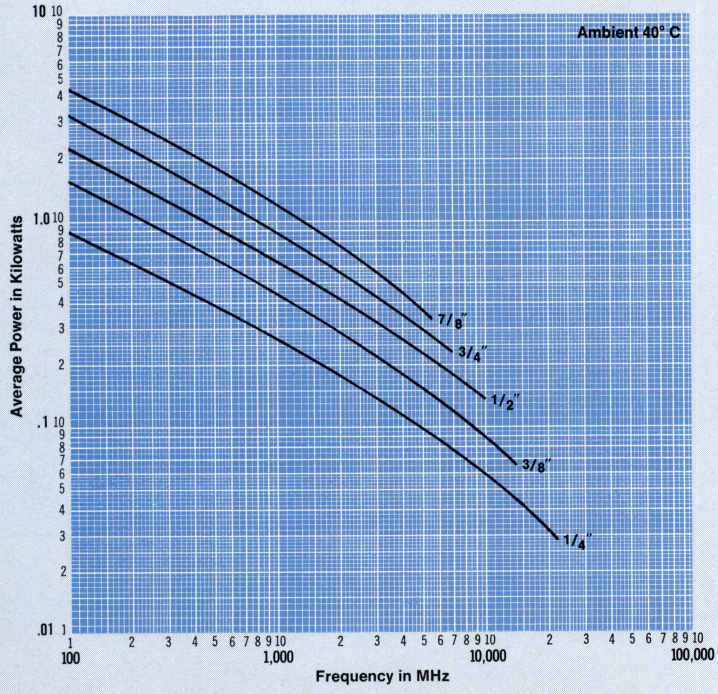
Size (Inches)	Part Number	Inner Conductor BC I.D.	Inner Conductor BC O.D.	Outer Conductor Al. I.D.	Outer Conductor Al. O.D.	Jacket PE-OD	Recommended Max. Oper. KV	Recommended Min. Bend Radius	Max. Pulling Force (lbs)	Cut-off Freqs. (GHz)	Nom. Lengths ft.	Wt. per 1000 ft.	Reel Weight (2M ft)
1/4	AM5014P	Sol.	.076	.210	.250	none	1.1	3	75	21.4	2,000	42	21
1/4	AM5014PJ	Sol.	.076	.210	.250	.290	1.1	3	75	21.4	2,000	51	21
3/8	AM5038P	Sol.	.117	.325	.375	none	2.0	4	150	13.9	2,000	92	32
3/8	AM5038PJ	Sol.	.117	.325	.375	.435	2.0	4	150	13.9	2,000	107	32
1/2	AM5012P	Sol.	.162	.450	.500	none	2.5	5	200	10.0	2,000	156	32
1/2	AM5012PJ	Sol.	.162	.450	.500	.600	2.5	5	200	10.0	2,000	191	32
1/2	RG231*	.112	.162	.450	.500	none	2.5	5	200	10.0	2,000	118	32
1/2	RG331*	Sol.	.162	.450	.500	.600	2.5	5	200	10.0	2,000	191	32
3/4	AM5034P	Sol.	.243	.676	.750	none	4.0	8	425	6.7	2,000	347	266
3/4	AM5034PJ	Sol.	.243	.676	.750	.850	4.0	8	425	6.7	2,000	397	266
3/4	RG360*	Sol.	.243	.676	.750	.825	4.0	7.5	425	6.7	2,000	397	266
7/8	AM5078P	Sol.	.288	.801	.875	none	4.5	9	500	5.6	2,000	466	266
7/8	AM5078PJ	Sol.	.288	.801	.875	1.015	4.5	9	500	5.6	2,000	548	266
7/8	RG332*	Sol.	.288	.801	.875	none	4.5	9	500	5.6	2,000	466	266
7/8	RG333*	Sol.	.288	.801	.875	1.015	4.5	9	500	5.6	2,000	548	266

Tubular conductors optional.

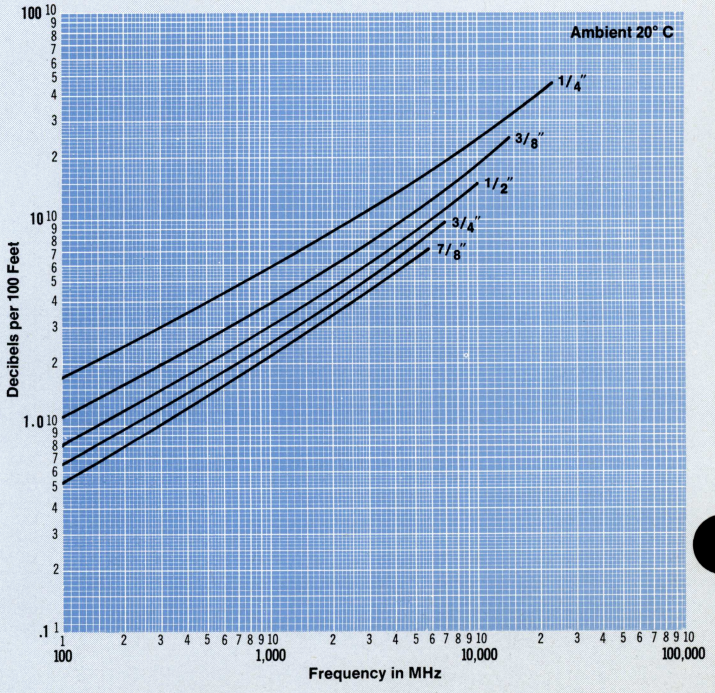
Electrical characteristics of all alumifoam P50 cables; capacitance 25 picofarads/foot; inductance 0.06 microhenries/foot; velocity of propagation 81%; dielectric constant 1.5.

*Note: Semiflexible RG Cables are manufactured in accordance with the detailed specification sheets (including impedance, capacitance & VSWR) of MIL-C-23806 (SHIPS)

Maximum Power Handling Capability



Nominal Loss Characteristics



Semiflexible Foam Dielectric

Alumifoam coaxial cable has a low loss foamed polyethylene dielectric and a seamless tubular outer conductor. The attenuation of a foam polyethylene dielectric will increase if moisture is absorbed. Therefore, the outer conductor is a seamless aluminum tube which prevents any moisture penetration along the length of the cable. The outer conductor is drawn down tightly on the foam dielectric, and there is dielectric adhesion to the center conductor. In this manner longitudinal moisture travel from the cable ends is minimized. In addition, differential conductor expansion is reduced. When used in corrosive atmospheres, for direct burial, or for submarine applications, a jacket of Times Xelon polyethylene is recommended. For additional protection, adhesive coated aluminum and steel armor tapes are available.

Characteristics

VSWR: when specified, less than 1.10 can be achieved over specific bandwidths. **Attenuation:** as much as 40% less loss than flexible cables, with negligible change with aging. **Attenuation Uniformity:** when specified, variations less than 1½% of the nominal value can be achieved over specific bandwidths. **Radiation:** below measurable limits. **Phase characteristics:** less change with temperature (20-30 ppm/°C) and negligible group delay error. **Pressurization:** does not require pressurization because of its seamless aluminum outer conductor and "closed cell" foam dielectric. **Weight:** as much as 35% less weight than flexible cables with equivalent losses.

75 Ohm

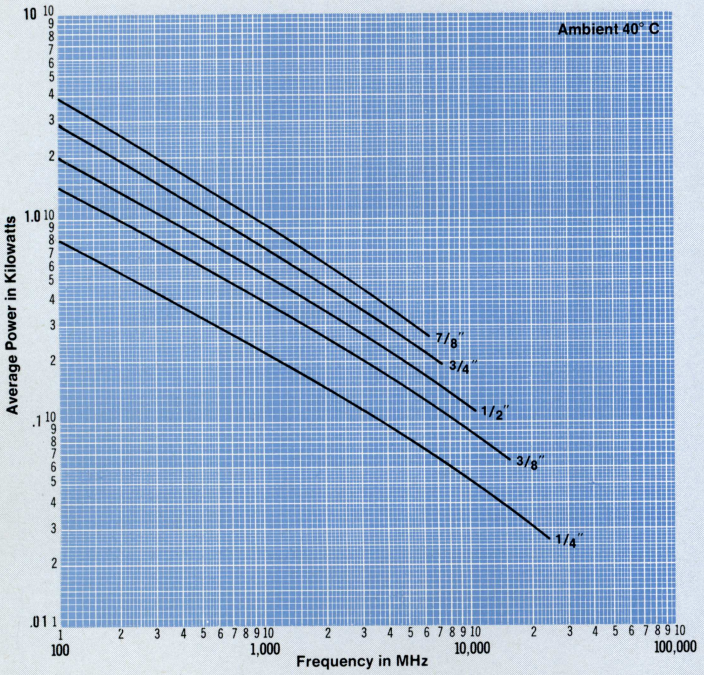
Size (Inches)	Part Number	Inner Conductor BC I.D.	Inner Conductor BC O.D.	Outer Conductor Al. I.D.	Outer Conductor Al. O.D.	Jacket PE-OD	Recommended Max. Oper. KV	Recommended Min. Bend Radius	Max. Pulling Force (lbs)	Cut-off Freqs. (GHz)	Nom. Lengths ft.	Wt. per 1000 ft.	Reel Weight (2M ft)
1/4	AM7514P	Sol.	.045	.210	.250	none	1.2	3	75	23.9	2,000	31	21
1/4	AM7514PJ	Sol.	.045	.210	.250	.290	1.2	3	75	23.9	2,000	38	21
3/8	AM7538P	Sol.	.071	.325	.375	none	2.0	4	150	15.2	2,000	67	32
3/8	AM7538PJ	Sol.	.071	.325	.375	.435	2.0	4	150	15.2	2,000	82	32
1/2	AM7512P	Sol.	.098	.450	.500	none	2.5	5	200	11.0	2,000	109	32
1/2	AM7512PJ	Sol.	.098	.450	.500	.600	2.5	5	200	11.0	2,000	143	32
1/2	RG334*	Sol.	.098	.450	.500	none	2.5	5	200	11.0	2,000	109	32
1/2	RG335*	Sol.	.098	.450	.500	.600	2.5	5	200	11.0	2,000	143	32
3/4	AM7534P	Sol.	.146	.676	.750	none	3.5	8	425	7.3	2,000	239	266
3/4	AM7534PJ	Sol.	.146	.676	.750	.850	3.5	8	425	7.3	2,000	289	266
7/8	AM7578P	Sol.	.173	.801	.875	none	4.0	9	500	6.2	2,000	315	266
7/8	AM7578PJ	Sol.	.173	.801	.875	1.015	4.0	9	500	6.2	2,000	397	266
7/8	RG-336*	Sol.	.173	.801	.875	none	4.0	9	500	6.2	2,000	315	266
7/8	RG306A*	Sol.	.173	.801	.875	1.015	4.0	9	500	6.2	2,000	397	266

Tubular conductors optional.

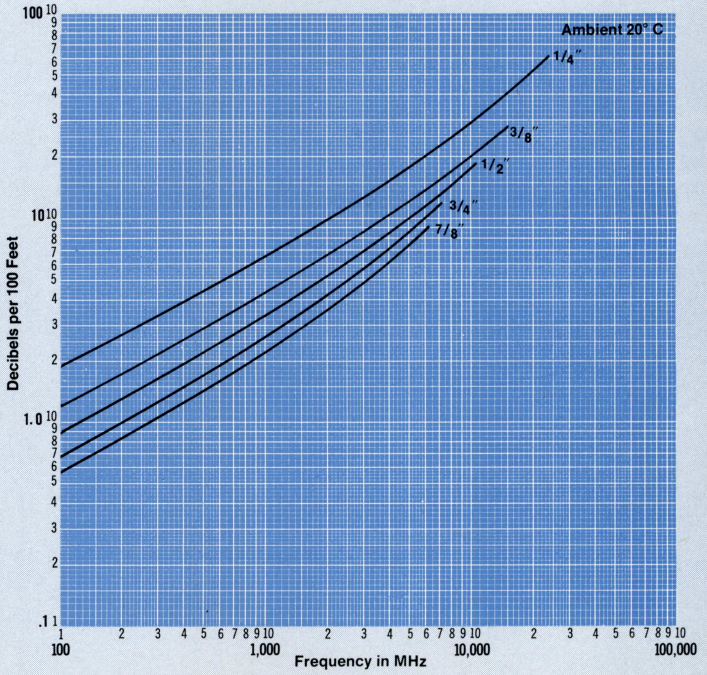
Electrical characteristics of all alumifoam P75 cables: capacitance 16.7 picofarads/foot; inductance .094 microhenries/foot; velocity of propagation 81%; dielectric constant 1.5.

*Note: Semiflexible RG cables are manufactured in accordance with the detailed specification sheets (including impedance, capacitance, and VSWR) of MIL-C-23806 (SHIPS).

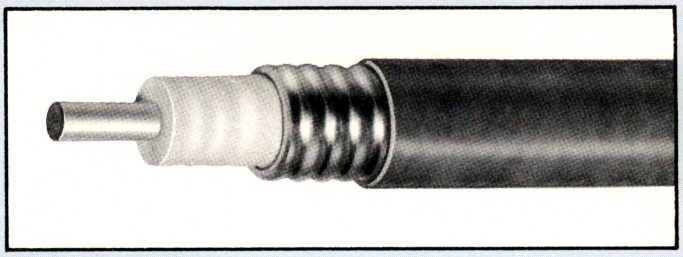
Maximum Power Handling Capability



Nominal Loss Characteristics



Corrugated Alumifoam T



Corrugated Tubular Aluminum & Foam TFE Dielectric

Corrugated Alumifoam was designed to facilitate installation of the standard Alumifoam cables. Very tight bends can be made without the use of tools. It is presently available with a unique air cell (foam type) PTFE construction which enables it to achieve very low loss characteristics without the need for pressurization. The air cell construction and corrugated outer conductor minimize the differential expansion between inner and outer conductor.

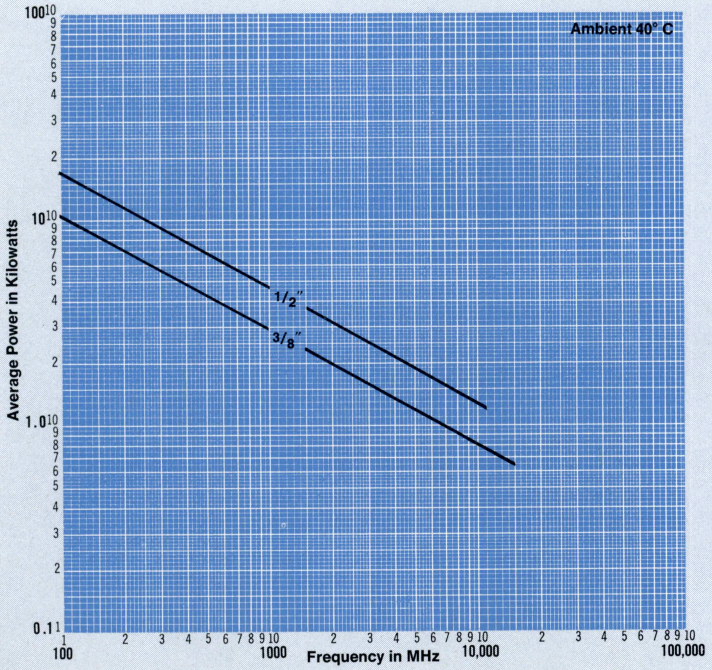
The corrugations have been equally designed to give an improved bend radius without fracture.

The cable has been approved for military aircraft. (Qualification test data is available.)

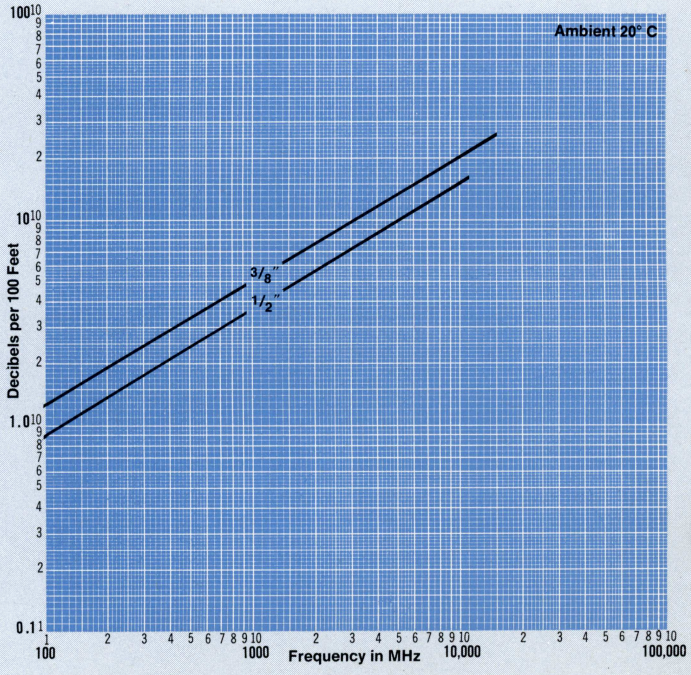
For precise broadband applications, the cable is sold in specific lengths to a specific VSWR and insertion loss response. Times stocks connectors for this cable.

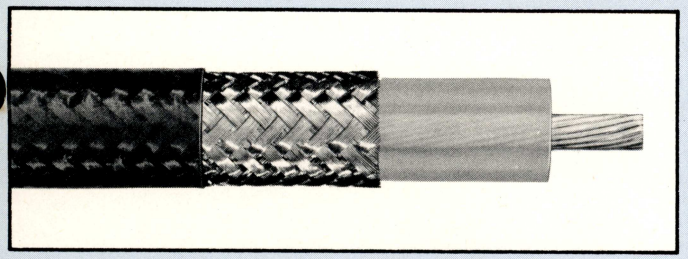
TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Types of Shielding Braids	Jacket (Optional)	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Max. Pulling Force (lbs)	Nominal Capac-itance (pf/ft)	Max Oper. Temp. Range (C°)	Max. Oper. Voltage (Volts RMS)	Vel of Prop. (%)	Min. Recom. Bend Radius	Cut-off Freq. (GHz)
RG-385/U	0.153	Air Cell PTFE	.425	Corr. Al. Tube OD-0.495"	FEP or FEP/Polyimide	.560	.178	50	200	23.8	−55 +250	1,500	85.0	2-1/2	11.0
CAM-5038T	0.105	Air Cell PTFE	.311	Corr. Al. Tube OD-0.375"	FEP or FEP/Polyimide	.425	.106	50	100	23.8	−55 +250	1,110	85.0	2	15.0

Maximum Power Handling Capability



Nominal Loss Characteristics





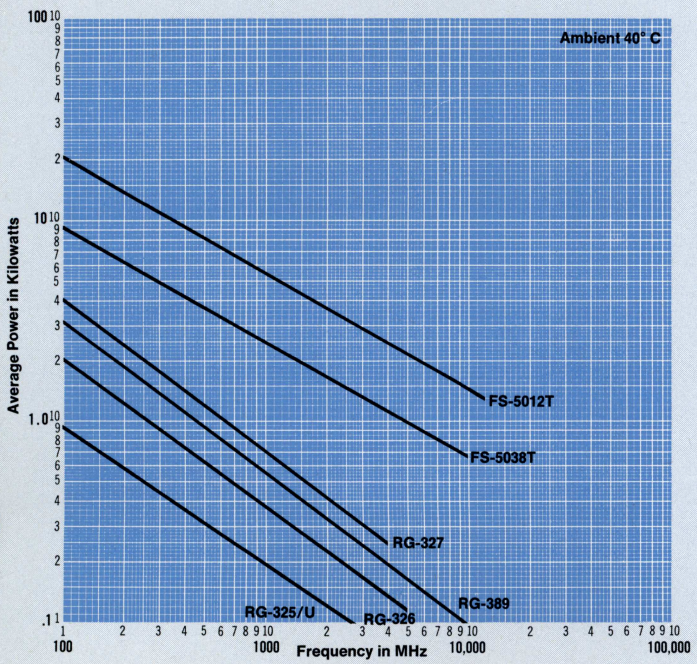
Flexispline

Flexible Air-Space Dielectric

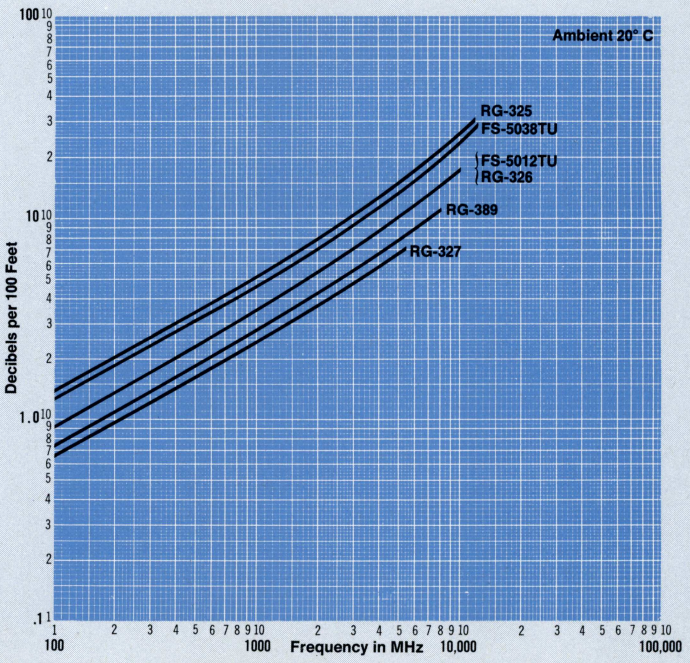
Flexispline is a flexible, air-space dielectric cable which is suitable for broadband use to 12 GHz dependent upon cable size. Flexispline is manufactured with solid center conductors for lowest loss and VSWR, and stranded center conductors for greatest flexibility. It is also manufactured with round wire braids for maximum strength and flat strip braids for lowest loss and lightest weight. The extruded spline dielectric gives excellent VSWR, attenuation uniformity and mechanical stability. Extruded FEP jackets give an excellent moisture seal for high temperature cables while polyurethane gives maximum abrasion resistance and flexibility for low temperature cables. High temperature Flexispline is especially useful in broadband aircraft penetration aids systems. Low temperature Flexispline has proven useful in tactical communication systems. Times has available qualification test data on these cables demonstrating their ability to withstand the vibration, shock, thermal shock and salt spray conditions of high performance aircraft or tactical ground systems. Type TNC, N, SC and QM connectors are available.

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	Jacket	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel of Prop. (%)	Cut-off Freq. (GHz)	Min. Recom. Bend Radius
FS-5038T	0.1330" Str. SC	PTFE Spline Air Space	0.370	2SC	FEP	0.468	0.18	50.0	25.0	−70 +200	1,100	81.0	12.0	2.5"
FS-5012T	0.1880" Str. SC	PTFE Spline Air Space	0.500	2SC	FEP	0.618	0.29	50.0	25.0	−70 +200	1,500	81.0	8.85	3.0"
RG-325/U	OD-0.1000" 19/0.0200" SCC Al	PE Spline Air-space	0.260	2SSC	PUR	0.350	0.10	50.0	25.0	−55 +85	750	87.0	16.5	2.0"
RG-326/U	OD-0.2000" 19/0.0400" SCC Al	PE Spline Air-space	0.550	2SSC	PUR	0.697	0.24	50.0	25.0	−55 +85	1,700	82.0	8.1	3.5"
RG-327/U	OD-0.3200" 19/0.0640" SCC Al	PE Spline Air-space	0.840	2SSC	PUR	1.010	0.55	50.0	25.0	−55 +85	2,500	86.0	5.3	5.0"
RG-389/U	0.2500" BC	PE Spline Air-space	0.635	2SC	PE-IIIA	0.875	0.37	50.0	22.8	−55 +80	2,000	89.0	7.5	4.5"

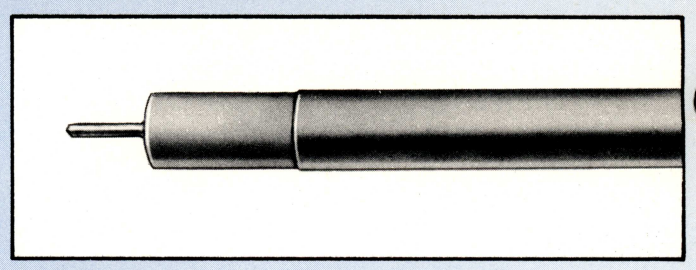
Maximum Power Handling Capability



Nominal Loss Characteristics



Alumisol



Semiflexible Tubular Aluminum-PTFE Dielectric

The tubular aluminum outer conductor of the Alumisol cable gives it many advantages over flexible cables. **NO Radiation:** the only radiation which can escape will be at the connector interface. **Small Size:** it is much smaller than the RG cable with the equivalent attenuation. **Light Weight:** its small size and simple construction achieve a much lighter weight cable. **Low Loss:** at the higher frequencies it can achieve 50% less attenuation than flexible cables of the same size.

Phase Stability: The change in electrical length with temperature is substantially less than flexible coaxial cables.

Attenuation Stability: the impervious outer conductor prevents corrosion of the conductors and change of attenuation with time. **Excellent Electrical Characteristics:** has the lowest VSWR and pulse reflection coefficient. Characteristics can be uniform to 12 GHz and beyond. **Formability:** while the cable is not designed for continuous flexure, it can be easily formed into shape for installation without tools on small bend radii.

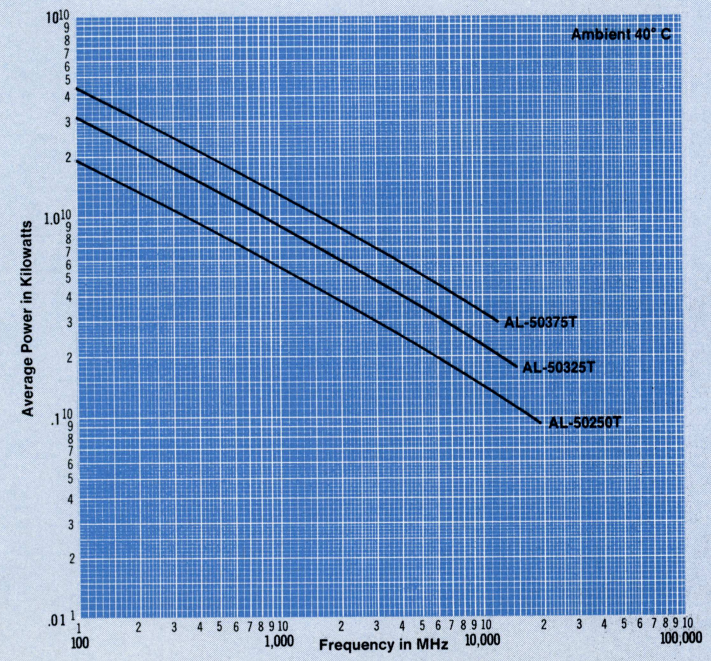
Corrosion Resistance: for corrosive environment, an FEP jacket is recommended.

Connectors: Times stocks or will recommend suitable connectors.

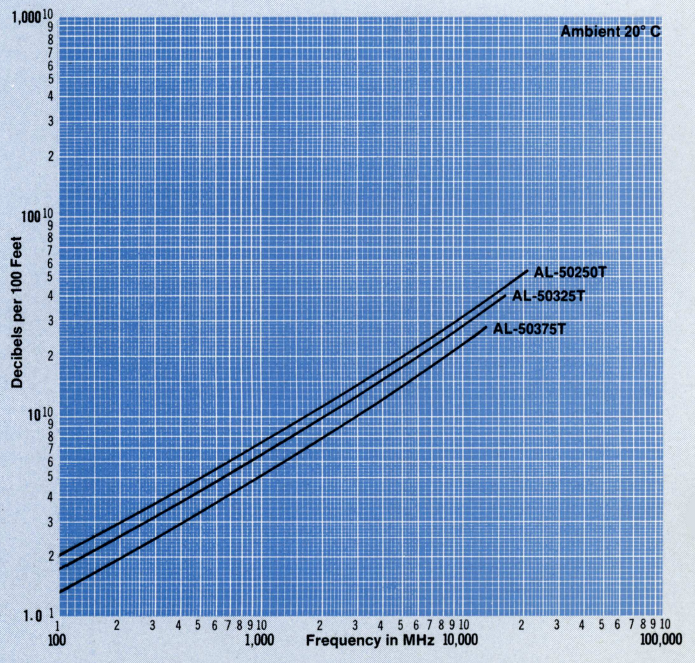
TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	Jacket (Optional*)	Jacket OD	Weight (lbs/ft) Unjacketed	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel of Prop. (%)	Weight (lbs/ft) Jacketed	Min. Recom. Bend Radius	Cut-off Freq. (GHz)
AL-50250T	0.0640" SC	PTFE	0.210	0.250" Al. Tube	FEP	.290	.064	50	29.4	−55 +140	3500	69.4	.080	1-1/4	19.0
AL-50325T	OD-0.0936" 7/0.0312" SC	PTFE	0.285	0.325" Al. Tube	FEP	.365	.097	50	29.4	−55 +140	5000	69.4	.118	1-1/2	13.7
AL-50375T	0.1020" SC	PTFE	0.332	0.375" Al. Tube	FEP	.415	.134	50	29.4	−55 +140	6,000	69.4	.158	2	12.0

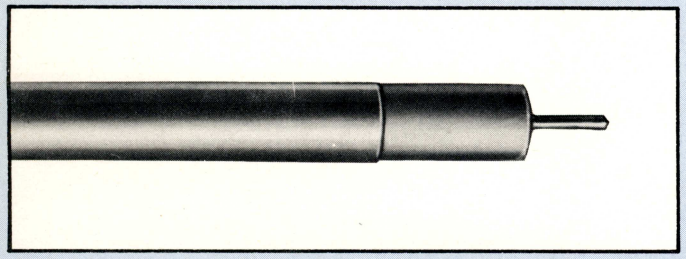
* Add suffix "J" to part number (eg. AL-50250TJ) if jacketing is desired.

Maximum Power Handling Capability



Nominal Loss Characteristics





Coppersol

Miniature Tubular Copper-PTFE Dielectric

The tubular copper outer conductor of the Coppersol cable gives it many advantages over flexible cables. **No Radiation:** the only radiation which can escape will be at the connector interface. **Small Size:** it is much smaller than the RG cable with the equivalent attenuation. **Light Weight:** its small size and simple construction achieve a much lighter weight cable. **Low Loss:** at the higher frequencies, it can achieve 50% less attenuation than flexible cables of the same size.

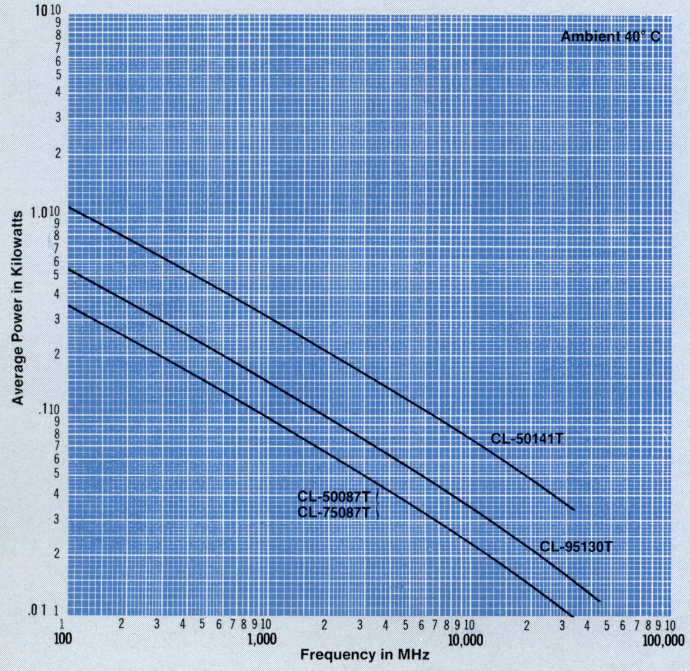
Phase Stability: The change in electrical length with temperature is substantially less than flexible coaxial cables.

Attenuation Stability: The impervious outer conductor prevents corrosion of the conductors and change of attenuation with time. **Excellent Electrical Characteristics:** has the lowest VSWR and pulse reflection coefficient. Characteristics are very uniform to 20 GHz and beyond. **Formability:** though small in size, the copper tube gives it the strength required for reliable installation. While the cable is not designed for continuous flexure, it can be easily formed into shape for installation on small bend radii.

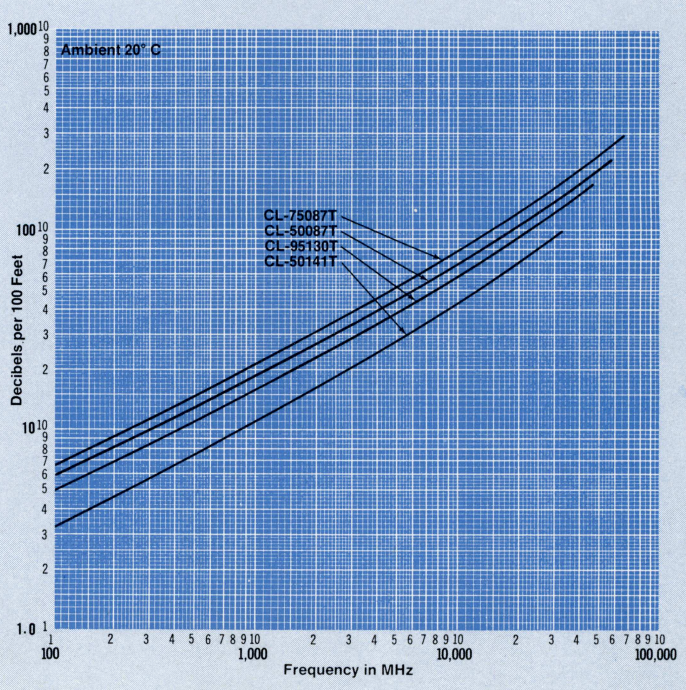
Corrosion Resistance: for corrosive environments an FEP jacket or plating is recommended. Tin, special solder coatings, silver or cadmium platings can be supplied.

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	OD (Inch)	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel of Prop. (%)	Min. Recom. Bend Radius	Cut-off Freq. (GHz)
CL-50087T	.020" SCCS	PTFE	.066	BC Tube	.087	.014	50	29.4	−55 +140	1200	69.4	1/8	60
CL-75087T	.011" SCCS	PTFE	.066	BC Tube	.087	.014	75	19.5	−55 +140	1200	69.4	1/8	67
CL-95130T	.011" SCCS	PTFE	.105	BC Tube	.130	.026	95	15.4	−55 +140	1500	69.4	1/4	45
CL-50141T	.036" SCCS	PTFE	.118	BC Tube	.141	.032	50	29.4	−55 +140	1900	69.4	1/4	34

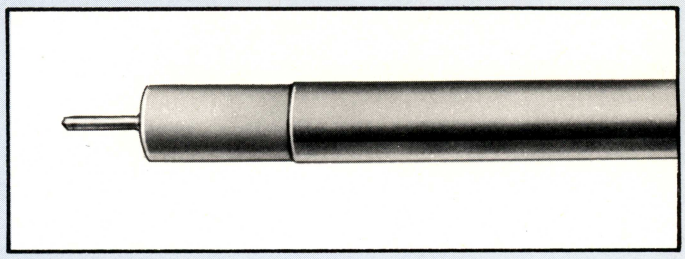
Maximum Power Handling Capability



Nominal Loss Characteristics



Phase compensated



Semiflexible Foam Dielectric

An analysis of the phase (electrical length) characteristics of a delay line or interconnecting cable system should include the following parameters:

1. Temperature coefficient—change with temperature.
2. Temperature stability—change with time, or storage.
3. Flexure—change with bending, shock or vibration.
4. Frequency—nonlinear change over bandwidth.
5. Pressure—change in air articulated dielectrics.
6. Humidity—change in flexible foam or air dielectrics.
7. Tension—change with installation or handling.
8. Cutting—error due to variation of dielectric constant.
9. Measurement—error due to errors in phase measurement.

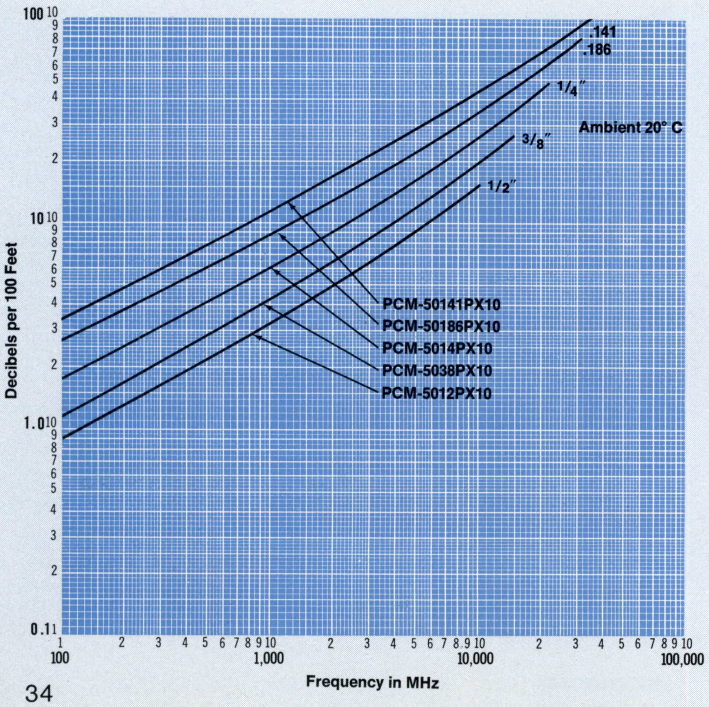
Times Phase Compensated Semiflexible Cables are especially useful for delay lines and phase critical interconnections.

Temperature Coefficient: designed to exhibit substantially less phase change with temperature (lower temperature coefficient). **Temperature Stability:** less long-term change. **Flexure:** not affected by shock or vibration. **Frequency:** variations from linear response can be held to minimum values. **Pressurization:** not required. **Humidity:** no effect. **Connectors:** available in all sizes. **Cutting error:** easily phase trimmed. **Cable Assemblies:** Times assembles to electrical length, VSWR and insertion loss requirements.

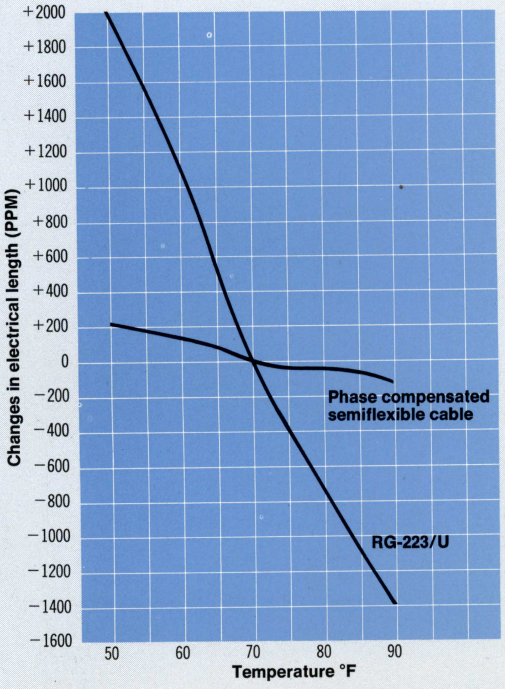
Cable Size	Part Number	Outer Conductor O. D. In.	Max. Oper. K.V.	Recommended Max. Test K.V.	Min. Bend Radius (in)	Max. Oper. Temp. (°C)	Cutoff Freq. (GHz)	Wt. Per 1000 ft	Nom. Lengths (ft)	Reel Weight (2M ft)	Phase Temp. Coefficient Max.
.141	PCM-50141 PX10	.141	0.3	0.5	1/2	+80	38	13	20	21	±10ppm/°F
.186	PCM-50186 PX10	.186	0.5	1.0	1	+80	30	24	2,000	21	±10ppm/°F
1/4	PCM-5014 PX10	.250	1.1	2.0	3	+80	21.4	42	2,000	21	±10ppm/°F
3/8	PCM-5038 PX10	.375	2.0	4.0	4	+80	13.9	92	2,000	32	±10ppm/°F
1/2	PCM-5012 PX10	.500	2.5	5.0	5	+80	10.0	156	2,000	32	±10ppm/°F

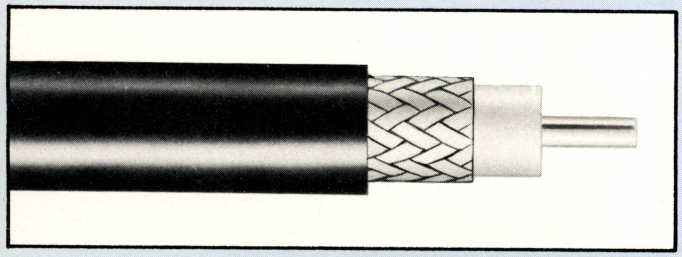
Note: (1) Velocity of propagation, time delay, conductor information available. (2) Other sizes and tighter phase temperature coefficients available.
(3) Cable can be manufactured to specific temperature stability and phase-frequency, or total error requirements.
(4) Available with jacket.

Nominal Loss Characteristics



Phase Temperature Coefficient (@1 GHz)





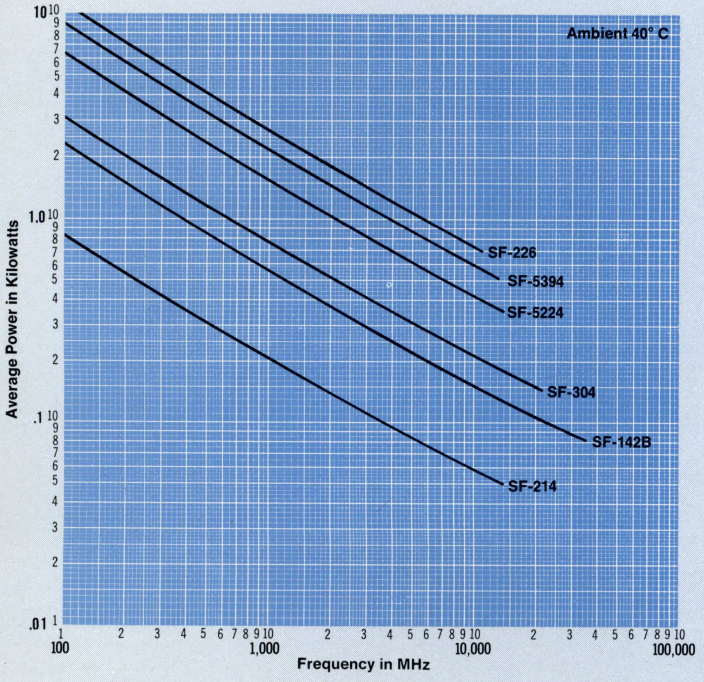
Stripflex (Improved)

Flexible Low Loss Cable

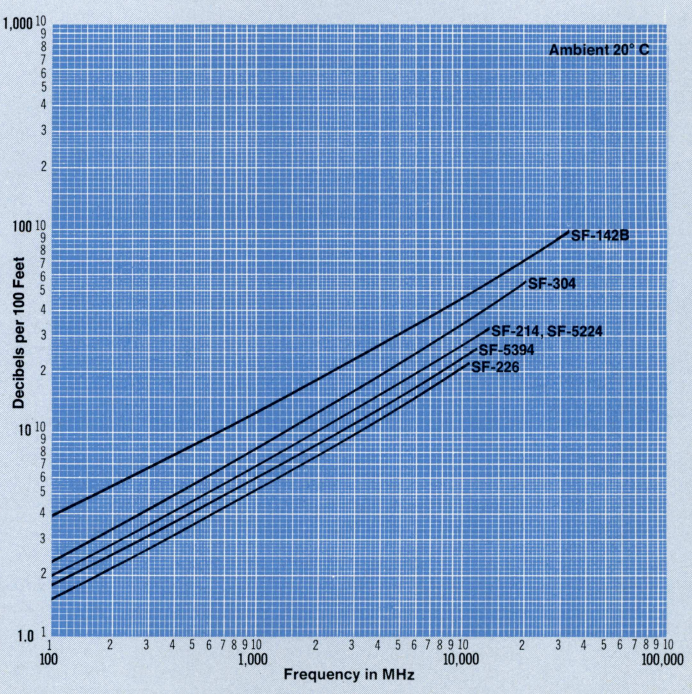
Investigation of the losses in flexible RG cables has shown that the standard braids of round wires specified in MIL-C-17D exhibit unusually high attenuation at high frequencies. Braids of flat strips of silver covered copper will reduce the attenuation at frequencies over 1 GHz. In addition, the cable VSWR is lower as the braid can be more uniformly manufactured. The VSWR and attenuation variation due to aging and flexure is substantially less, especially above 12 GHz. Stripflex cables are lighter than comparable RG's and also exhibit greater shielding efficiency. Times stocks, or will recommend suitable connectors. (Crimp type connectors are especially suitable).

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	Jacket	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel of Prop. (%)	Cut-off Freq. (GHz)	Min. Recom. Bend Radius
SF-142B	0.0360" SCCS	PTFE	0.119	Flat/Round Composites	FEP	.195	.0375	50.0	29.4	−55 +200	1,900	69.4	34.0	1.0"
SF-214	OD-0.0890" 7/0.0296" SC	PE	0.285	Flat/Round Composites	PVC-IIA	.450	.1440	50.0	30.8	−55 +80	5,000	65.9	13.7	2.0"
SF-226	OD-0.1270" 19/0.0254" SC	Tape PTFE	0.370	Flat/Round Composites	FEP	.468	.2240	50.0	29.0	−55 +200	7,000	70.0	10.5	2.5"
SF-304	0.0590" SCCS	PTFE	0.185	Flat/Round Composites	FEP	.290	.0930	50.0	29.4	−55 +200	3,000	69.4	21.0	1.5"
SF-5224	OD-0.0960" 7/0.0320" SC	PTFE	0.285	Flat/Round Composites	FEP	.415	.1700	50.0	29.0	−55 +200	5,000	70.0	13.5	2.0"
SF-5394	0.1020"SC	PTFE	0.332	Flat/Round Composites	FEP	.415	.1740	50.0	29.4	−55 +200	6,000	69.4	12.0	2.0"

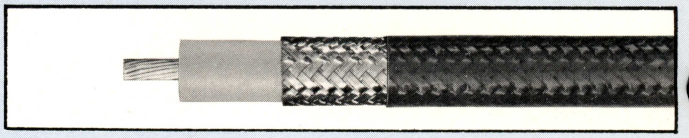
Maximum Power Handling Capability



Nominal Loss Characteristics



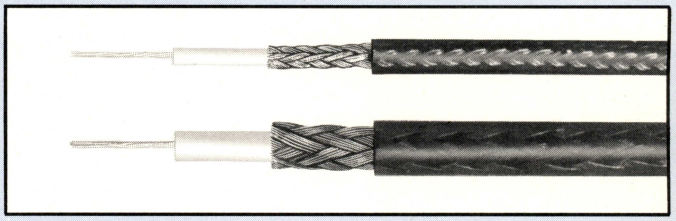
FEP jacketed RG cables



Many of the high temperature RG cables have fiberglass jackets. These fiberglass jackets are thought to be moisture tight due to the "moisture barrier" tape used beneath the fiberglass braid. However, these tapes do not act as moisture barriers and only prevent the braid impregnants from stiffening the outer conductor braids. The fiberglass braids will allow moisture and fluids to penetrate the cable and are especially unsuited for installation on aircraft or other applications where such conditions exist. The cables listed below have an extruded FEP jacket in place of the fiberglass. All other electrical characteristics are the same as the original RG cable.

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	Jacket	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel. of Prop. (%)	Cut-off Freq. (GHz)	Min. Recom. Bend Radius
FEP-115A	OD-0.0850" 7/0.0284" SC	Tape PTFE	0.255	2: SC OD-0.308"	FEP	0.375	.144	50.0	29.0	−55 +200	5,000	70.0	15.3	2.0"
FEP-119	0.1020" SC	PTFE	0.332	2: SC OD-0.396"	FEP	0.456	.221	50.0	29.4	−55 +200	6,000	69.4	12.4	2.5"
FEP-225	OD-0.094" 7/0.0312" SC	PTFE	0.285	2: SC OD-0.343"	FEP	0.405	.173	50.0	29.4	−55 +200	5,000	69.4	13.8	2.0"
FEP-226	OD-0.127" 19/0.0254" SC	Tape PTFE	0.370	2: SC OD-0.428"	FEP	0.488	.248	50.0	29.0	−55 +200	7,000	70.0	10.5	2.5"

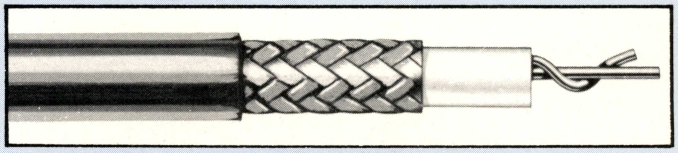
Hi-Strength Miniature Cables



These new Hi-Strength miniature cables are designed to eliminate the conductor breakage problems commonly experienced by users of RG-178B/U, RG-179B/U, and RG-180B/U. The new conductor materials make these miniature cables three times stronger than standard RG's without affecting the dimensional, electrical or environmental characteristics of MIL-C-17D. Designated HS-178B, HS-179B, and HS-180B, these new cables meet the needs of airborne electronic and other types of electrical instrumentation applications, protecting the user from breakage during installation, operation and maintenance.

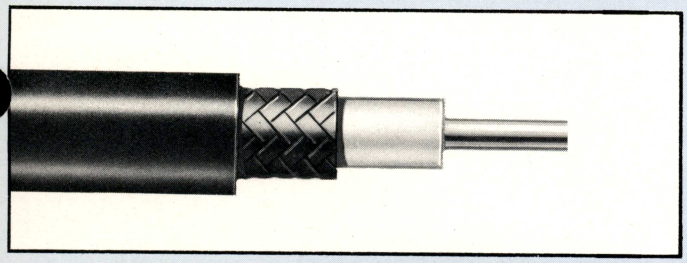
TWC P/N	Inner Conductor	Dielectric Material	Shielding	Jacket	Weight (lbs./ft.)	Break Strength (lbs.)	Flex Life (cycles)	Min. Recom. Bend Radius	Max. Oper. Temp. Range (°C)	Nominal Imped. (Ohms)	Nominal Capacitance (pf./ft.)	Vel. of Prop. (%)	Attenuation @400 MHz (dB/100')	Max. Oper. Voltage (Volts RMS)	DC Resistance Cent. Cond./Shield (Ohms/1000')
HS-178B	OD .012" 7/0 .004" SA	PTFE 0.034"	SCCS 0.053"	FEP 0.072"	0.005	65	25x greater than Standard RG	0.75"	−55 +200	50	29.4	69.5	29.0	1000	378/38.0
HS-179B	OD .012" 7/0 .004" SA	PTFE 0.063"	SCCS 0.081"	FEP 0.101"	0.010	70	25x greater than Standard RG	1.00"	−55 +200	75	19.5	69.5	21.0	1200	378/22.0
HS-180B	OD .012" 7/0 .004" SA	PTFE 0.102"	SCCS 0.120"	FEP 0.140"	0.017	75	25x greater than Standard RG	1.50"	−55 +200	95	15.4	69.5	17.0	1500	378/17.0

Low capacitance cables



Coaxial cables with low capacitance are normally designed with a wrapped filament to achieve a velocity of propagation of 76% to 89% and capacitances in the range of 6.0 to 13.5 pf/ft. These cables are normally designed for an environment where moisture can not accumulate. Their center conductors are small and require care in termination.

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	Jacket	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel. of Prop. (%)	Min. Recom. Bend Radius
LC-101	0.0120" 7/0.0040" SCCS	Air-space PTFE	.128	1 SC 0.151	TFE	0.168	.024	140	9.5	−55 +250	750	76.3	1
LC-102	0.0120" 7/0.0040" SCCS	Air-space PE	.146	1 BC .169	Nylon	0.181	.017	130	9.5	−55 to +80	750	82.3	1
LC-126	0.0070" SCCS	Air-space TFE	.285	1 SC	TFE	0.330	.085	190	6.0	−55 +250	1,000	89.2	1-1/2
LC-127	0.0070 SCCS	Air-space PE	.285	1 TC .315	Nylon	0.325	.077	185	6.5	−55 +80	1,000	84.3	1-1/2
LC-200	0.0159" BCCS	Air-space PE	.112	1 BC .135	PVC-1	0.175	.015	100	12.0	−55 +80	750	84.5	1
LC-201	0.0159" BCCS	Air-space PE	.112	1 BC .130	Nylon	0.144	.106	100	12.0	−55 +80	500	84.5	3/4



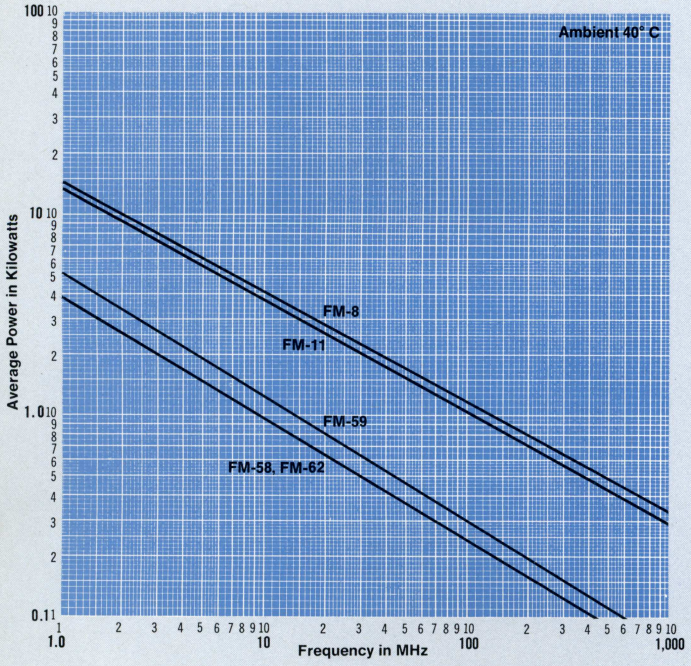
Flexifoam

Flexible Foam Dielectric

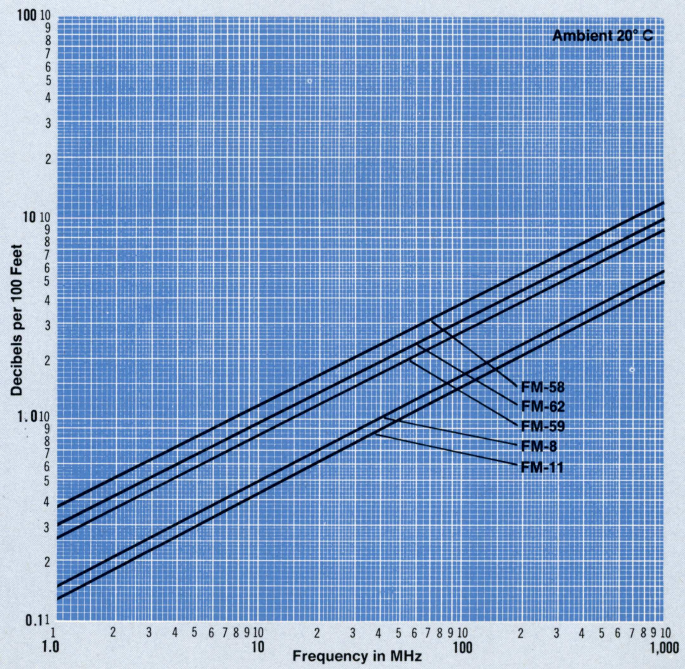
Flexifoam is a flexible coaxial cable designed to give less loss than the RG cable of the same size. The use of a solid center conductor and high velocity foam polyethylene dielectric can achieve a reduction in cable attenuation of up to 35%. The foam polyethylene dielectric is susceptible to moisture penetration which causes an attenuation increase. (See Application Notes—Attenuation Stability.) Since all plastic jackets will allow vapor transmission, caution should be exercised when considering Flexifoam for use in humid environments, or direct burial. Other versions of Flexifoam with stranded center conductors, double shielded or triaxial outer conductors and PVC jackets are available. Times stocks or will recommend suitable connectors.

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	Number & Types of Shielding Braids	Jacket	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel. of Prop. %	Min. Recom. Bend Radius
FM-8	0.1020″ BC	Foam PE	0.285	1: BC	PE-IIIA	0.405	.101	50.0	25.4	−55 +80	1,500	80	2
FM-11	0.0640″ BC	Foam PE	0.285	1: BC	PE-IIIA	0.405	.095	75.0	16.9	−55 +80	1,600	80	2
FM-58	0.0400″ BC	Foam PE	0.116	1: BC	PE-IIIA	0.195	.022	50.0	25.4	−55 +80	600	79	1
FM-59	0.0320″ BC	Foam PE	0.146	1: BC	PE-IIIA	0.242	.031	75.0	16.9	−55 +80	800	79	1-1/4
FM-62	0.0200″ BC	Foam PE	0.146	1: BC	PE-IIIA	0.242	.028	95.0	13.4	−55 +80	700	79	1-1/4

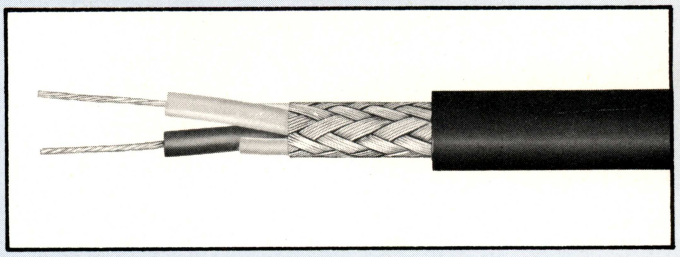
Maximum Power Handling Capability



Nominal Loss Characteristics



Balanced lines

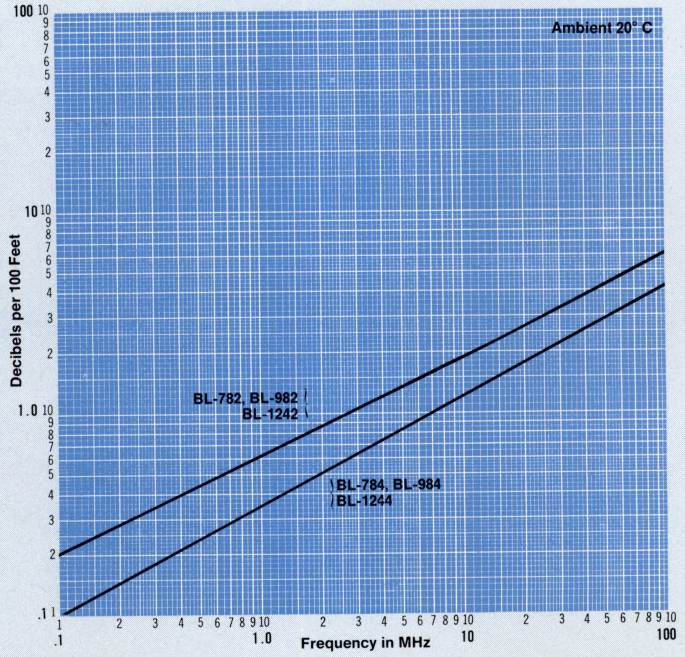


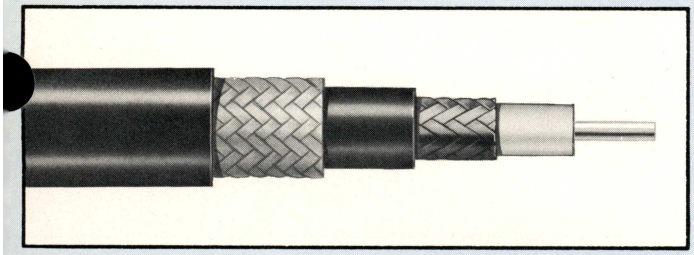
Flexible Twin Conductor

Balanced line cables consist of two insulated conductors twisted with an overall braided shield and jacket. The dimensions of the insulated conductors and the insulating material are selected to give a specific impedance characteristic. Balanced lines achieve a high degree of isolation with external circuits at low frequencies (below 10 MHz) due to the twisting of the insulated conductors. To facilitate termination, the outer shield is designed for easy push-back, and the conductor insulations are coded blue and white. The cables are quite flexible due to the solid fillers which are used and are especially suited for patch panels or test leads. Times stocks or will recomrnend suitable connectors.

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	Jacket	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Cond. Loop Resist. (Ohms/M ft)	Min. Recom. Bend Radius	Vel.of Prop. (%)
BL-782	OD-0.039" 7/0.0130" BC	PE	.162	OD-0.185" 1:TC	PVC-IIA	.245	.034	78	19.6	−55 +80	1,000	17.9	1-1/2	66.5
BL-784	OD-0.067" 7/0.0223" BC	PE	.284	OD-0.318" 1:TC	PVC-IIA	.420	.100	78	19.6	−55 +80	1,000	6.1	2	66.5
BL-982	OD-0.032" 7/0.0106" BC	PE	.162	OD-0.185" 1:TC	PVC-IIA	.245	.034	98	15.6	−55 +80	1,000	26.4	1-1/2	66.5
BL-984	OD-0.053" 7/0.0176" BC	PE	.284	OD-0.318" 1: TC	PVC-IIA	.420	.100	98	15.6	−55 +80	1,000	9.6	2	66.5
BL-1242	OD-0.022" 7/0.0073" BC	PE	.162	OD-0.185" 1:TC	PVC-IIA	.245	.032	124	12.3	−55 +80	1,000	48.8	1-1/2	66.5
BL-1244	OD-0.038" 7/0.0127" BC	PE	.284	OD-0.318" 1:TC	PVC-IIA	.420	.094	124	12.3	−55 +80	1,000	18.8	2	66.5

Nominal Loss Characteristics



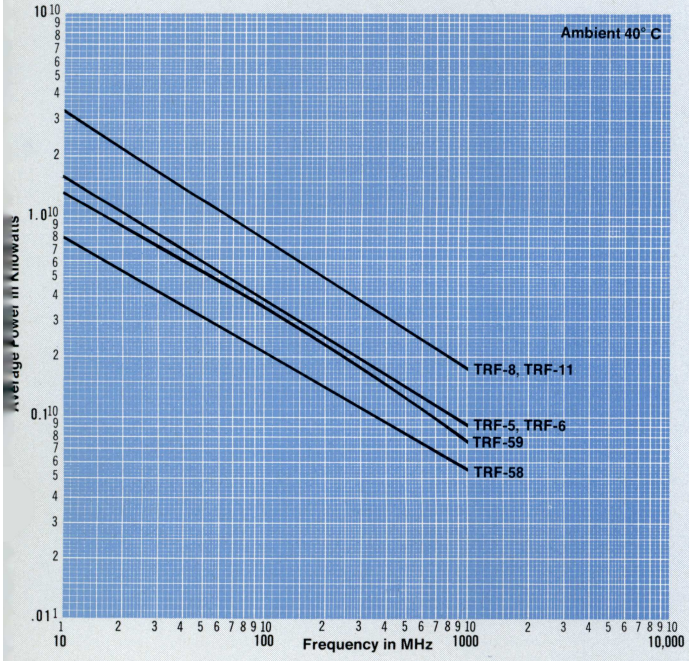


Triaxial cable

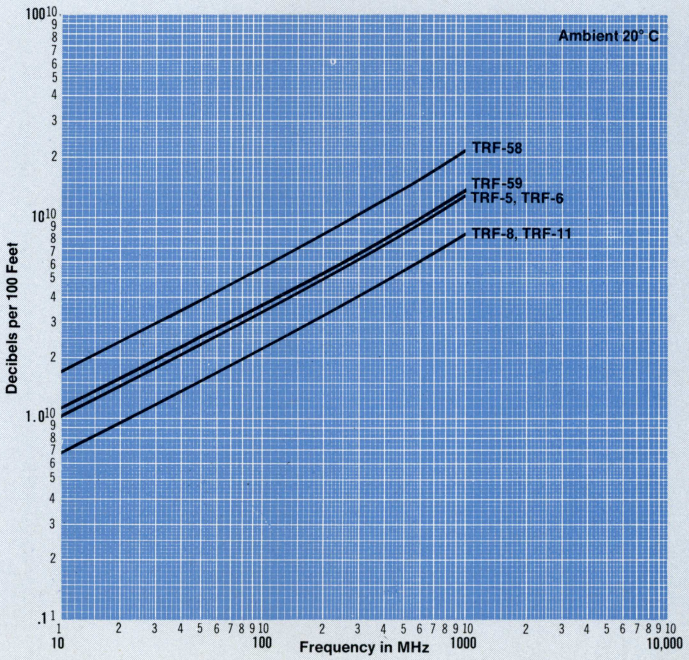
For many applications, Electromagnetic Compatibility (EMC) considerations require flexible coaxial cables with very low levels of signal leakage. A triaxial shielding configuration has been determined to exhibit 10 to 20 db less leakage than a double shielded cable. (See application notes.) A triaxial shielding configuration consists of the outer conductor braid and an additional braid separated by a special dielectric layer. The triaxial cables described below are designed to be used on drawers, or shock mounted equipment. The TRF cables described below have bare copper conductors and should be used below 1 GHz if attenuation stability is important. For use above 1 GHz silvered covered conductors should be used. Triaxial cables may be terminated with standard type connectors whose back ends have been modified to join the two shields together. For maximum shielding efficiency true-triaxial connectors should be used where the isolation of the two shields is maintained through the connector. Times stocks or will recommend suitable connectors for these cables.

TWC P/N	Stranded Inner Cond. BC	Dielectric PE-OD	Braid Nom. BC OD	1st Jacket PE-OD	2nd Braid Nom. BC OD	Outer Jacket PVC IIA OD	Min. Recom. Bend Radius	Weight (lbs/ft)	Nom. Imped. (Ohms)	Nom. Capacitance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel.of Prop. (%)
TRF-5	OD-0.0600″ 7/0.0201″	.185	.214	.274	.303	.420	2.0	.098	50	30.8	−55 +80	3,000	65.9
TRF-6	OD-0.0300 7/0.0100″	.185	.214	.274	.303	.420	2.0	.196	75	20.5	−55 +80	3,000	65.9
TRF-8	OD-0.0860″ 7/0.0286	.285	.318	.365	.404	.500	2.5	.152	50	30.8	−55 +80	5,000	65.9
TRF-11	OD-0.0477″ 7/.0159″	.285	.318	.365	.404	500	2.5	.150	75	20.5	−55 +80	5,000	65.9
TRF-58	OD-0.0380″ 7/0.0126″	.116	.139	.175	.198	.245	1.5	.041	50	30.8	−55 +80	2,000	65.9
TRF-59	OD-0.023″ 1/0.023″	.146	.175	.225	.254	.325	2.0	.066	75	20.5	−55 +80	2,300	65.9

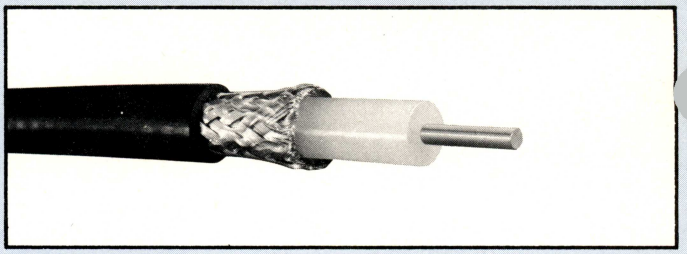
Maximum Power Handling Capability



Nominal Loss Characteristics



Imperveon

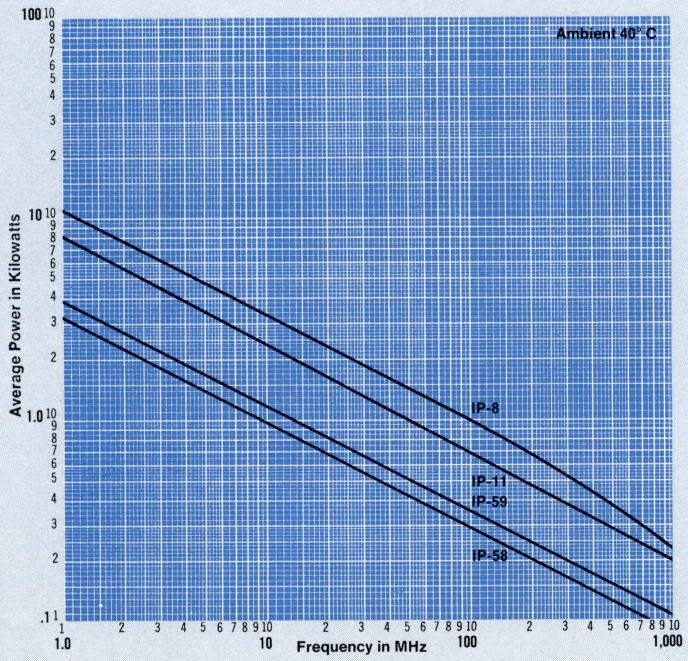


Flexible Moisturetight

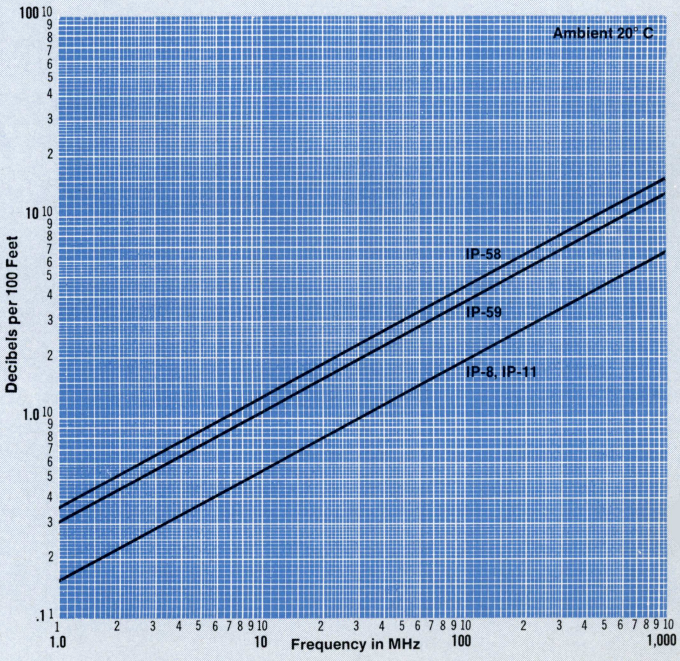
Times' new Imperveon RG (modified) type cable offers a unique "double defense" against the usual reasons for cable deterioration. It's Xelon® outer sheath is especially formulated to resist moisture, sunlight and corrosion. It is not affected by cold, heat, condensation or time. Even if the outer cable is nicked or cut by a tool or an animal, Imperveon's exclusive second barrier, an inert semi-liquid, prevents moisture or gases from migrating beyond the immediate area. The viscosity of this inert semi-liquid permits it to actually "heal" small cuts that in ordinary RG would lead to eventual failure. Imperveon will last substantially longer than ordinary RG. Its electrical characteristics are comparable in all respects to equivalent RG cable, with less loss, and it can be used with standard connectors.

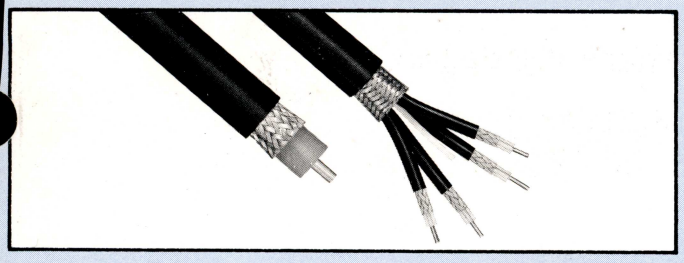
Cable Type	Modified	Cond. O.D.	Dielectric O.D.	Outer Cond. BC-OD	Jacket PE-OD	Charac. Imp. (Ohms)	Capacitance (pf ft)	Operating Voltage	Operating Temp.	Velocity	Wt. per 1000
IP-8	RG-8	0.086 BC	.285	.318	.405	50	30.8	5.0KV	−40 +80	65.9%	100
IP-11	RG-11	0.040 TC	.285	.318	.405	75	20.6	5.0KV	−40 +80	65.9%	90
IP-58	RG-58	0.036 TC	.116	.139	.195	50	30.8	1.9KV	−40 +80	65.9%	27
IP-59	RG-59	0.023 CCS	.146	.175	.242	75	20.6	2.3KV	−40 +80	65.9%	37

Maximum Power Handling Capability



Nominal Loss Characteristics





Pressuretight nonhosing cables

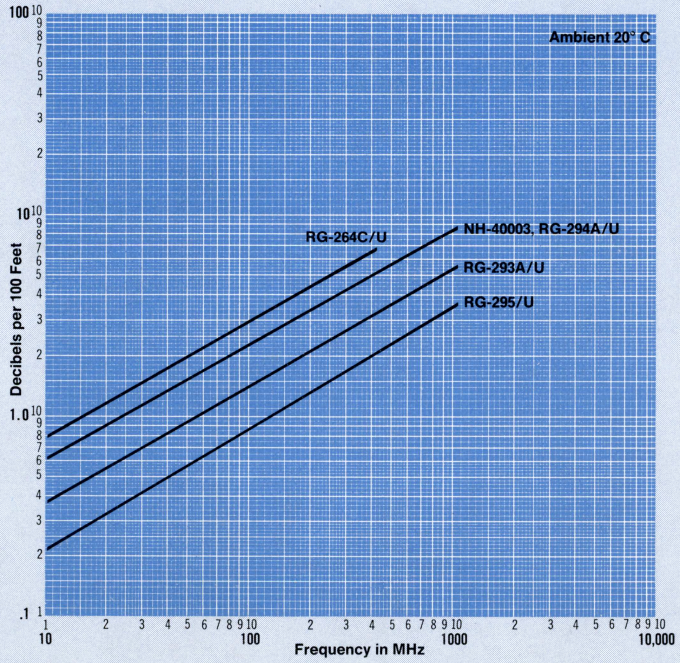
Flexible Pressuretight

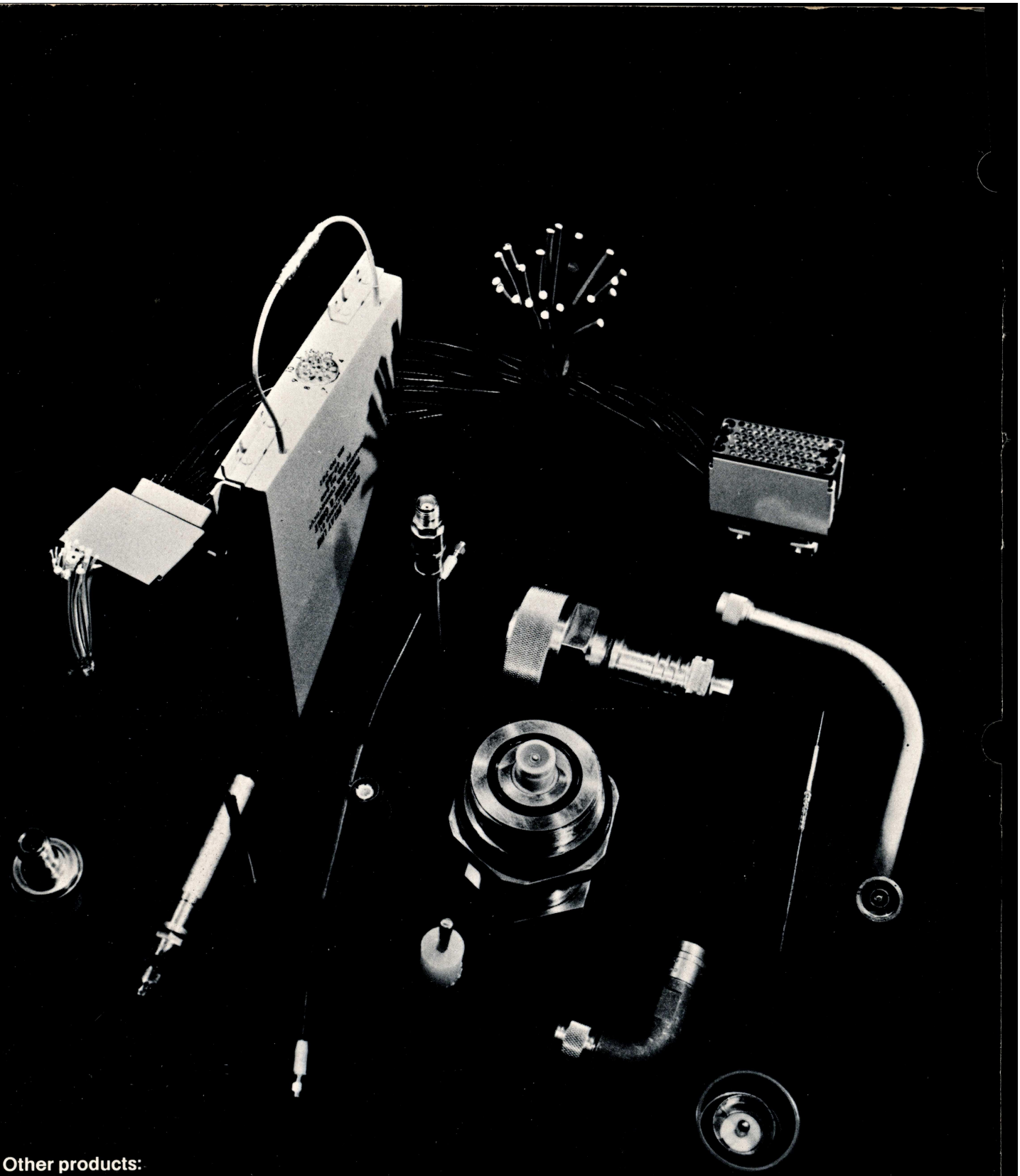
When cables are used underwater, it has become common practice to use nonhosing cable constructions. Nonhosing cables are made pressuretight so that water entering the jacket will not propagate to the connector, or through a hull penetration. Both the outer and inner conductors are sealed.

Sealing is accomplished by filling all voids with high pressure compounds, which have good electrical characteristics. The sealing compound is also compatible with the dielectric and jacketing compounds. The normal test for pressure tightness is to apply 1000 psi to one end of the cable with no leakage occuring one foot away.

TWC P/N	Inner Conductor	Dielectric Material	DOD (Inch)	No. & Types of Shielding Braids	Jacket	Jacket OD	Weight (lbs/ft)	Nominal Imped. (Ohms)	Nominal Capac-itance (pf/ft)	Max. Oper. Temp. Range (°C)	Max. Oper. Voltage (Volts RMS)	Vel. of Prop. (%)	Pressure Tightness
RG-293A/U	0.1060" BC	PE	0.370	1:SC	PE-IIIA	0.545	.160	50	30.8	−55 +80	7,000	65.9	1,000 psi
RG-294A/U	2 cond. 0.0808" 1 BC, 1 TC	PE	0.472	1:SC	PE-IIIA	0.630	.205	95	16.2	−55 +80	3,000	65.9	1,000 psi
RG-295/U	0.195 BC	PE	0.680	1:SC	PE-IIIA	0.895	.420	50	30.8	−55 +80	11,000	65.9	1,000 psi
RG-264C/U	4 coax. 0.0720" 2 BC, 2 TC	PE	0.184	1:2 BC, 2 TC	Ind. Jckts, overall brd. and Polyurethane jckt.	0.750	.326	40	38.6	−55 +80	3,000	65.9	1,000 psi
NH-40003	OD-0.0860" 7/0.0285" BC	Ethylene Propylene	0.285	1:BC	Ethylene Propylene	0.500	.129	50	30.8	−40 +125	5,000	65.9	1,200 psi

Nominal Loss Characteristics





Other products:

rf cable assemblies,
delay lines,
molded cable assemblies,
multi-conductor cable assemblies,
rf connectors.

TIMES
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